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Addresses.

THE CAUSE OF DIFFUSE PERITONITIS COMPLICATING APPENDICITIS AND ITS PREVENTION.

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON SURGERY AND ANATOMY, AT THE FIFTY-SECOND ANNUAL MEETING OF THE A. M. A., AT ST. PAUL, MINN., JUNE 4-7, 1901.

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Every surgeon who treats patients suffering from acute appendicitis must be impressed with the fact that an unfavorable outcome in any given case means that the infection which was originally confined to the small space occupied by the vermiform appendix itself has first invaded the tissues immediately surrounding this organ and has then been distributed over the entire peritoneal cavity. In other words, in fatal cases the patient practically always dies as the result of a diffuse peritonitis.

Other conditions may arise which may result in a fatal issue. There may be a septic thrombosis of the vessels in the vicinity of the appendix or an empyema, or even pyemia, but by far the greatest number of deaths occurs from diffuse peritonitis, and if it is possible to prevent this, the mortality from appendicitis must at once fall enormously. In order to plan a means for the prevention of this condition, it is well to study the progress of the disease from its onset.

There is danger of the occurrence of diffuse peritonitis in the following classes of cases: 1, in gangrenous appendicitis; 2, in perforative appendicitis; 3, in cases in which the cecal end of the lumen of the appendix is closed and the distal portion so thoroughly distended with septic material as to make its walls permeable to micro-organisms; 4, in the very rare cases in which there are small abscesses in the walls of the appendix not directly connected with its lumen, and 5, in cases in which there is a septic thrombosis of some of the vessels, but not sufficient to cause gangrene.

The first, second and third conditions are so common that every surgeon who operates frequently during the acute attack has seen them many times.

Were it possible to keep the septic material in these cases within the circumscribed area in which it occurs primarily, it is plain that the condition would remain comparatively harmless.

ANATOMICAL CONDITIONS INVOLVED.

The appendix is virtually surrounded on all sides excepting in the direction of the median line by relatively fixed tissues. Above we find the lower end of the cecum and the cecal end of the ileum; to the right and in front is the parietal peritoneum; behind the peritoneum covering the iliacus muscle, and toward the median line it is surrounded by loops of small intestines. Moreover, the omentum extends far beyond its lower end.

It is true that the appendix may be displaced downward, but in this case it will again be surrounded by fixed tissues which seem especially adapted to dispose of septic material. Again in this case there is an enteroptosis affecting the cecum, and always with this a marked lowering of the transverse colon and stomach and with these the omentum.

Thus we see that the natural anatomical arrangement for the protection of the general peritoneal cavity is extremely efficient. There is but one weak point in the anatomical provision for this protection, namely, in the direction of the median line, because the great mobility of the small intestines naturally favors the distribution of septic material to all parts of the peritoneal cavity.

If we can prevent the small intestines from doing harm in this direction, we will have accomplished our end, theoretically at least.

At this point I wish to direct your attention to another important anatomical condition. The blood supply of the omentum is so enormous that it will readily dispose of a very severe infection by walling off the surrounding structures if it is permitted to give its physiological attention to a single area.

It is a well-known fact which every one who frequently operates during the acute attack of appendicitis has had many opportunities to observe, that the omentum crowds itself about any inflammatory or traumatic lesion within the peritoneal cavity the moment the latter occurs, and if left undisturbed, a few hours will suffice to cause efficient protective adhesions.

These adhesions become stronger every hour and the blood supply in the omentum becomes greater, so that if no disturbance arises one can reasonably expect efficient protection to the general peritoneal cavity from the omentum.

Another important fact must not be lost sight of in this connection. The fact that the surrounding structures are relatively fixed in position favors the condition of rest of the inflamed part and permits the omentum to act after the manner of a splint applied to an inflamed joint. The value of rest as a preventive to the extension of an infection in any part of the body can not be overestimated. Consequently if it is possible for us to secure this condition of rest we have gained another important point in the right direction.

In case the appendix is displaced upwards its position is even more favorable, because the available amount of omentum is thus increased. Again, if the appendix is retrocecal in its position, which is very frequently the case, the infection of the general peritoneal cavity is more easily prevented than when in its normal location. If anteriorly misplaced, it is likely to be fastened to the anterior abdominal wall by the adherent omentum.

PERISTALIC MOTION OF THE SMALL INTESTINES.

It is plain, then, that the infection of the general peritoneal cavity must occur from a disturbance on the part of the small intestines, and must be due to their peristaltic motion.

It is significant that in almost all cases of severe acute appendicitis the obstruction to the passage of gas and intestinal contents through the ileo-cecal valve is one of the early symptoms. Nature is trying to prevent this very dangerous disturbance by closure of the ileo-cecal valve. We have a condition corresponding to the contraction of the muscles surrounding an inflamed joint, to the closure of the eyelids in conjunctivitis, etc. Moreover, the muscles overlying the appendix become tense. Everything tends toward the establishment of conditions of rest in the vicinity of the inflamed organ.

THE EFFECT OF THE INTRODUCTION OF ANY KIND OF FOOD OR CATHARTIC INTO THE STOMACH.

It is a fact which has been demonstrated a great number of times that peristalsis does not occur unless food or cathartics are introduced into the stomach. If the attack occurs shortly after a meal and before all of the food has passed through the ileo-cecal valve, its presence may cause peristaltic motion in the small intestines. Upon reaching the ileo-cecal valve the latter may prevent its passage into the cecum, causing return peristalsis, and the intestinal contents are forced back into the stomach, whence it may be expelled by vomiting or be again forced into the small intestine, giving rise to further peristaltic motion. Moreover, it will give rise to the formation of gas, which must cause disturbance and pain in its attempt to pass the ileo-cecal valve.

This motion, it is plain, will be harmful primarily from the fact that it gives rise to pain by disturbing the sensitive inflamed tissues; and secondarily from its likelihood of carrying infectious material with which it has come in contact in the vicinity of the inflamed appendix to other parts of the peritoneal cavity.

Besides this the physiological attention of the omentum can now no longer be directed to the single area of infection, because other parts of the peritoneal cavity require its protection, and such portions of the omentum as are not yet thoroughly adherent about the inflamed appendix are likely to be diverted from this point.

Theoretically, then, the disturbance which is to be feared to so great an extent is caused by the presence of food or cathartics in the stomach, and its logical remedy would be to absolutely prevent the introduction of any form of food or cathartics into the stomach and the removal by gastric lavage of any portion of food which may be retained in the stomach at the beginning of the attack. It may be necessary to perform gastric lavage twice or at most three times in order to entirely remove remnants of food which may have regurgitated into the stomach from the small intestines by reason of return peristalsis.

That this is not only true theoretically, but also in practice, I have demonstrated in a large number of cases; and many other surgeons who have followed the same plan of treatment have informed me of the fact that their experience has agreed with mine.

It is true that a few surgeons have reported failures with this method, but an investigation of their treatment in each instance has shown that they disregarded one of the three cardinal points in the treatment. They either gave just a little liquid food by mouth, or they gave some form of cathartics, or disturbed the rest of the intestines by giving large enemata, or they neglected removing the stomach contents by gastric lavage.

Of course, the slightest amount of food is sufficient to start peristaltic motion of the small intestines, and the same is true of cathartics, and consequently if either of these features in the treatment is omitted one can not hope for the same results.

It does not matter what form of appendicitis may be present in any given case it seems clear that this form of treatment must be useful, because in the milder cases it will result in rest of the affected part, and consequent rapid resolution; while in the severe cases it will guard against mechanical distribution of infectious material, and in all cases it reduces the tendency to meteorism and stops the pain.

There is, however, one class of patients in which I have found this treatment of the greatest value. I refer to the class in which the appendix is gangrenous or perforated and in which there is already a beginning general peritonitis. These patients give the impression of being extremely ill. There is complete obstruction to the passage of gas or feces. There is nausea or vomiting and marked meteorism; the pulse is small and quick; usually there is high fever, but the temperature may be subnormal; respiration is rapid, and the abdominal muscles overlying the appendix are tense. The patient is in a condition in which I formerly operated at once, day or night, as a last resort, only to find that it was too late in more than one-third of the number of cases, the mortality increasing with the time that had elapsed since the beginning of the attack. In this class of cases there is still a recovery of over 90 per cent. if the principles laid down above will be thoroughly applied.

If peristalsis is absolutely inhibited, as it can be, the infection will still become circumscribed and the pus can be evacuated with safety. Moreover, the condition I have just described is in itself the result of the administration of food and cathartics. Had these patients received neither food nor cathartics from the beginning of their attack, the condition would never have advanced to this dangerous point. This refers particularly to a class of cases which Richardson has so well described as being "too late for an early and too early for a late operation."

If the plan I have outlined above is carried out, the following changes are likely to occur: The nausea and vomiting will cease after one or two, or at most three, gastric irrigations. The meteorism and the pain will decrease greatly during the first twelve hours and will almost completely disappear in twenty-four hours. The pulse becomes slower and firmer and more regular, the breathing deeper and the patient's general appearance improves to an astonishing extent. If the temperature was high, it will go below 100 F. the first twenty-four hours, and in three days it will be practically normal. The abdominal muscles will become soft as soon as the stomach contents have been removed by gastric lavage.

Usually the improvement is so rapid that one is tempted to spoil everything by giving nourishment by mouth, because the patient's condition does not seem serious enough to warrant such severe measures.

That this form of treatment, which I have employed since 1892, at first only in selected cases, and later more and more generally, is really of great value is shown by clinical results. My mortality in cases of perforative or gangrenous appendicitis with beginning diffuse peritonitis is less than one-fourth as high as it was in the cases operated at once upon making the diagnosis, and even in advanced cases of diffuse peritonitis there has

been a marked decrease in the mortality in my experience.

It might be said that these cases were not due to perforative or gangrenous appendicitis, but that they were simply severe catarrhal cases, which are known to result favorably under any form of treatment. To this I would respond, that I have later removed the appendices in many of these cases and have almost invariably demonstrated the correctness of the diagnosis.

In my statistics I utilize only the cases which I have operated in the Augustana Hospital, because of these I have full and accurate records, while of those operated in other hospitals and in private homes my records are not accurate, because there the patients and assistants are not so completely under my control.

From Jan. 1, 1898, to May 1, 1901, I have operated in this hospital upon 565 appendicitis cases, which I have divided into three groups: 1, those who entered the hospital suffering from diffuse peritonitis; 2, those who entered the hospital suffering from gangrenous or perforative appendicitis, and 3, those who entered the hospital suffering from recurrent appendicitis in the interval between attacks or at the beginning of a recurrent attack when the infectious material was still confined to the appendix. Of the first class I treated 18 cases, with 10 deaths, 55.5 per cent. mortality; of the second class I operated 179 cases, with 9 deaths, 5 per cent. mortality; of the third class I operated 368 cases, with one death, 1/3 per cent. mortality. Total, 565 cases, with 20 deaths, 3.5 per cent. mortality.

These statistics contain all patients who entered the hospital suffering from appendicitis; even those who died few hours after admission. from general peritonitis, a

Of classes 2 and 3, all were operated, so there can be no doubt concerning the diagnosis. Of class 1 all but 4 were operated, and these were in an absolutely hopeless condition when they entered the hospital. I will state also that during this time no patient suffering from appendicitis was refused admission into the hospital.

Judging from the authorities upon this subject, our mortality of 55.5 per cent. in diffuse peritonitis is as low as that recorded by any of the authors whose statistics contain a considerable number of these cases, while some authors with less than half this number report as low as 20 per cent. mortality. Krogius has compiled the statistics of 58 authors whose combined mortality is a little over 70 per cent.

As compared with my own experience in former years, when all of these cases were treated surgically at once, my experience in this series of cases of diffuse peritonitis following appendicitis is quite encouraging.

It is in the second class, however, in which the greatest benefit from the treatment is found. In this class, according to most modern authorities, Murphy, Mynter, Porter, Lennander, Bull, and many others, there is a mortality of at least 20 per cent. This in my cases has been reduced to 5 per cent.; and had the treatment been instituted at the beginning of the attack, I am certain that the mortality could easily have been reduced to one-half of this. In class 3 there should have been no death. Many of these cases had been treated through their acute attack by the method I have described, before being sent to the hospital. But as not all of the cases I treated outside of the hospital came later to operation, it is not fair to utilize these in demonstrating the value of the method.

Again, I have treated a large number of cases through the acute attack of appendicitis with this method which have never been operated and which I have not included in my statistics, because the correctness of the diagnosis could not be established by actually demonstrating the condition present in the appendix.

However, the fact that there was a mortality of less than one-third per cent. in so large a number of cases is significant. It shows the value of a method by which cases of acute appendicitis in whom an operation is bound to give a high mortality at best, can be changed to chronic appendicitis in which the mortality following operation is almost nothing.

It would require too much space to tabulate all the cases treated by this method, but in order to give a clear idea of the character of these cases I have appended the histories of the cases suffering from perforative or gangrenous appendicitis which were treated through the acute attack during the past four months in the Augustana Hospital by means of the method I have described, and in which the correctness of the diagnosis was subsequently demonstrated by removing the diseased appendix during the operation.

In the same time I have treated many cases of acute perforative or gangrenous appendicitis in consultation with other physicians in private houses, but as these diagnoses have not been proven by the removal of the diseased organs they cannot be included in this list, although they corresponded with those who were operated both as regards the outcome and the conditions present during the attack, and there can be no reasonable doubt regarding the diagnosis.

It is, of course, not possible to come to any definite conclusions from a collection of statistics, because there are so many differences which can not be balanced.

One hospital may be largely filled with patients from the lowest and least intelligent classes, which would indicate that the patients enter only after they are in an exceedingly serious condition. Another hospital may have a more intelligent class, and hence the cases are in a more favorable condition at the time of admission. Again, as an institution becomes known for the treatment of these cases, a larger number of relatively hopeless cases will be sent there, hence I believe it is practically impossible to draw fair conclusions from statistics, and one must depend largely upon personal experience.

Among these cases, No. 8896 is especially instructive, because it illustrates the danger of operating too early. The patient entered the hospital five days after the beginning of the attack. His condition was exceedingly grave, as indicated in the history. With an immediate operation I should have expected his death within thirty-six hours.

The diagnosis was made of gangreneous appendicitis. He was placed on exclusive rectal feeding. Within twenty-four hours his pain had entirely disappeared, his general appearance improved greatly, the meteorism subsided, his temperature fell 3 degrees, his pulse came down forty beats per minute, his abdominal wall became soft, and twenty-four hours later I began to doubt my diagnosis. At the end of the fourth day his condition had improved so much that, upon his request, I concluded to operate, because he was normal in every respect with the exception of a slight induration in the region of the appendix and pain upon deep pressure. It seemed to me as though the process must have stopped just short of a perforation. Had he been left without an operation there could be no doubt but what he would recover temporarily from his attack. It seemed perfectly safe to operate.

Upon opening the abdomen I found a perforated gan-

grenous appendix surrounded by a small abscess completely walled off by the omentum. I removed the appendix and the surrounding pus with great care and drained the cavity, expecting the patient to recover, but a diffuse peritonitis developed, from which he died five days later. This case impresses the lesson, that it is not wise to operate until the patient has fully recovered from the acute attack. Of course, he should be cautioned as regards his diet in order to prevent a recurrence, but I am confident that the mortality in my practice will be still smaller in the future, especially because I shall wait longer after the acute attack before removing the appendix.

The danger of rupture of a circumscribed abscess into the general peritoneal cavity has been the cause of great anxiety. My experience has led me to conclude that this practically never happens unless food or cathartics are given by mouth. In my entire experience it has happened but once, in a child 7 years old, which was brought to the hospital on the fifth day after the beginning of an attack of gangrenous appendicitis with beginning diffuse peritonitis. It had received food and cathartics constantly since the beginning of the attack, and although its condition seemed hopeless either with or without an operation, it improved slightly from day to day under exclusive rectal feeding, but never became well enough to make drainage of rather an extensive infection of the entire area between the umbilicus and pubis and right anterior superior spine of the ilium safe, and still, had I anticipated the likelihood of a rupture into the remaining portion of the peritoneal cavity, I should certainly have made the attempt with the hope of bringing about a recovery.

On the fifth day the abscess suddenly ruptured. I anesthetized the boy within half an hour, made a free incision, washed out the peritoneal cavity, drained freely, but the child died in six hours.

In this case gastric lavage had not been employed because the child was very nervous and we feared the effects of the fright.

I have frequently seen cases in which food and cathartics were given in whom this accident occurred.

Aside from the benefit to the patient of increased safety there are other advantages to be derived from this plan of treatment, which are well worth considering. Being able to operate during the quiescent state, drainage is not indicated, and consequently there is no likelihood of the occurrence of post-operative ventral hernia. With the reduction of the area of infection, the amount of peritoneal adhesions must necessarily be reduced. As a matter of experience, I can say that fecal fistulæ almost never occur in cases treated by this method.

Of course, all these advantages, as well as the prevention of diffuse peritonitis, can be accomplished if the appendix is removed during the very beginning of the attack, before the infectious material has passed beyond the walls of the appendix, but unfortunately it is but very seldom that a patient enters the hands of a surgeon at so early a stage.

The following consecutive histories illustrate the class of cases in which the form of treatment is indicated and also the progress of these cases under this form of treatment. The number at the beginning of each history is for the purpose of identification in the Augustana Hospital records.

No. 8573.—Master Harold B., school boy, 7 years of age, operated on Jan. 9, 1901, gave the following history: He had whooping cough at 3 weeks of age, otherwise he had been well. Fifteen months ago patient was taken with headache, vomiting, pyrexia 100 F., and pain in abdomen only on pressure in right inguinal region. Then perfectly well until six weeks ago, when patient was again taken with headache, vomiting, pyrexia and tenderness in right inguinal region. The abdomen was severely distended with gas. The attack was much more severe than the first one. Patient placed upon exclusive rectal alimentation for two weeks. Headache and vomiting left him in a day, but tenderness has persisted, and he has usually had slight evening rise of temperature of about 100 F.

Present Condition: Well developed, fairly well nourished, slightly anemic, temperature 99.4, pulse 90, regular and strong. Appetite good, bowels constipated, heart and lungs normal. Abdomen slightly distended, quite tympanitic, except lower portion of left inguinal region. At times tenderness at right inguinal region.

Treatment: McBurney's incision 6 cm. long. Appendix 7 inches long, curved on itself back behind to cecum, is adherent to posterior surface of cecum. Appendix is ulcerated to an extent approaching perforation, contains several concretions. The lymphatics in the mesentery are enlarged to size of army bean. Appendix crushed with strong forceps at cecal end. Stump inverted with silk purse-string suture. No drainage. Wound closed. Dry dressings. Straps. Patient recovered normally, leaving hospital Feb. 5, 1901.

No. 8582.—Master Jerome R., 8 years of age, operated on Jan. 28, 1901, gave the following history: Patient experienced the ordinary diseases of childhood. At the age of 1½ years he had peritonitis and was very ill for three weeks. On Jan. 1, 1901, he felt indisposed, having eaten an unusual amount of nuts the night before, and on the following morning he suffered from severe pain in the abdomen, accompanied with vomiting and diarrhea. The pain was paroxysmal in character, became located in the right inguinal region on the second day. The bowels became distended with gas, and after the first day there was complete obstruction to the passage of gas and feces. Vomiting persisted for five days, until patient absolutely refused to take food, when the vomiting ceased. Entered hospital Jan. 9, extremely ill with diffuse peritonitis. The abdomen was greatly distended with gas and extremely tender. Temperature 102 F., pulse 120. He was placed on exclusive rectal alimentation, whereupon he improved rapidly. On January 17 his pulse and temperature were normal, his abdomen was but very slightly distended, his complexion and facial expression were good. There was slight tenderness in the hypogastric and right inguinal region. His heart, lungs and kidneys were normal. He was now given beef-tea by mouth, but the rectal alimentation was continued. There was an area of induration in the vicinity of McBurney's point which persisted. Exclusive rectal feeding was continued for three weeks.

On Jan. 28, 1901, four weeks after the beginning of the attack, an abdominal section was made through the right rectus abdominis muscle 6 cm. long, opposite McBurney's point. The peritoneum was found congested, the intestines empty. In front of the right iliacus muscle was found a mass, consisting of the cecum, the omentum and the cecal end of the ileum, surrounding a circumscribed abscess containing the perforated appendix and a number of fecal concretions. The appendix was removed, the stump inverted, the wound drained with gauze and glass drains. The appendix contained a perforation 3 cm. from its end. The peritoneal cavity contained a considerable quantity of sero-sanguinous fluid. The patient left the hospital well April 2, 1901.

No. 8589.—Mr. Anton N., a fireman, 23 years of age, entered the hospital Jan. 10, 1901. He gave the following history: Aside from having experienced the diseases of childhood, he had always been well. In May, 1900, he experienced a mild attack of acute appendicitis continuing for five days. Felt well after this until 18 days ago when patient again experienced severe pain, first in the epigastric region, which became localized in the vicinity of the appendix. He suffered from diarrhea and vomiting for one day.

Under treatment with exclusive rectal diet the pain, which was at first very severe, decreased rapidly and disappeared in

five days, leaving only soreness for ten days longer. The rectal feeding was continued for two weeks.

Present Condition: The patient is well nourished, the tongue is clean, appetite good, bowels constipated, heart, lungs and kidneys normal, temperature 98.6, pulse 80, regular and strong. There is some tenderness and resistance a little below McBurney's point.

Operation: January 11. McBurney's incision 5 cm. long. Appendix coiled upon itself and adherent throughout between cecum and iliacus muscle, perforated 2 cm. from end into cecum. The wound in the latter had healed. The appendix was exceedingly brittle, edematous and congested and its lumen was almost completely obliterated at the cecal end. The appendix was removed and its stump inverted into the cecum and the space closed by purse-string suture. The abdominal wound was closed. The patient recovered normally, leaving the hospital on Feb. 12, 1901.

No. 8630.—Mrs. David B., 46 years of age, was operated on Jan. 23, 1901. The patient is so deaf that it was difficult to obtain a history. She has been married for 22 years, has had seven pregnancies, the last one 10 years ago. Has had two miscarriages. For several months she has suffered from incomplete intestinal obstruction, accompanied with nausea and eructation of gas and indefinite pain in the abdomen. A diagnosis of chronic appendicitis had been made, but during the past two weeks her condition has been more serious, her deafness, however, makes it impossible to obtain a definite history except that she is and has been very ill. Her facial expression is bad, her abdominal walls tense. She complains of pressure over the entire abdomen, but especially over the region of McBurney's point and in the region of the sigmoid flexure of the colon. She had traveled a distance of 400 miles by rail and was extremely exhausted. She was placed in bed and given exclusive rectal alimentation for four days. Her heart, lungs and kidneys were normal and her general condition improved under this treatment, under which she had been for a week before entering the hospital. An exploratory incision 5 inches in length was made in the median line and the appendix was found surrounded by omentum. The former was perforated a short distance from its distal extremity and at this point was found a small abscess containing a dram of pus and an enterolith. The appendix was removed, together with the portion of the omentum containing the abscess. The patient developed a pneumonia four days after the operation from which she recovered as well as from her operation. She left the hospital March 9, 1901.

No. 8699.—Miss Freda W., 20 years of age, operated on Feb. 3, 1901, gave the following history: Patient has experienced all of the children's diseases. At the age of 9 she injured her knee-joint by falling upon broken glass. The wound became infected and patient was extremely ill for several months, recovering with an ankylosed joint. Menstruated at 13, regular and painless for two years, since then has suffered considerable pain, more especially in the right side, lasting from two hours to two days at each period. For the past four years, patient has been anemic, nervous and not very strong. Seven months ago she began to have occasional pains in the region of McBurney's point at intervals of about two weeks, most severe, however, during menstrual period. Her appetite was bad, her digestion impaired, her nervousness increased. About Nov. 1, 1900, the pain became persistent and was accompanied with nausea and eructation of gas.

On December 16 patient suffered from an exceedingly violent, acute attack of appendicitis, characterized by extreme pain, nausea, vomiting and a distinct chill, pulse increased to 130 per minute, temperature 100 F. No food of any kind was given after the beginning of the attack. She was kept on exclusive rectal alimentation for ten days. One hypodermic injection of one-fourth grain morphia was given the first day. The pain subsided within twenty-four hours, but the patient's general condition was bad on account of the severeness of the attack. There was tenderness in the vicinity of McBurney's point for two weeks, which continued upon pressure until the time of the operation. Ten days after the beginning of the attack she was given beef-tea by mouth for four days, then liquid diet for two weeks, then light diet until the time of the operation.

Present Condition: Fairly well nourished, but anemic, appetite fair, bowels regular. Eructations of gas after eating. Heart, lungs and kidneys normal. Slight pain in the region of McBurney's point upon deep pressure. Ankylosis of right knee at angle of 165 degrees.

Treatment: McBurney's incision 6 cm. long. Appendix found severely congested, its lumen reduced to one-fourth its normal size at the cecal end. The distal end somewhat club-shaped, contained four fecal concretions. The mucous membrane of the appendix was ulcerated. The appendix was universally adherent, the adhesions being soft and due to the recent attack. Appendix removed, stump buried with purse-string suture. Abdominal wound closed. The patient recovered normally, leaving the hospital three weeks after the date of operation.

No. 8757.—Master Herman M., 5 years of age, operated on March 1, 1901, gave the following history: At 3 years of age he had measles and scarlet fever. In August, 1900, he was sick for several weeks with pyrexia and pain in the region of the umbilicus. Fairly well after this until two weeks ago patient had a slight attack of diphtheria; antitoxin was immediately administered and child became well in a few days. One day before admission, patient was dull, sleepy and feverish. That night he vomited some. Magnesia was given, this was followed by colicky pain in abdomen. Pain in region of umbilicus persisted.

Feb. 19, 1901. Since admission temperature has ranged from 100 to 104 F. Patient has had the appearance of being extremely ill.

Present Condition: Considerably emaciated. Sordes of teeth. Teeth badly decayed. Tongue slightly coated. Quite hungry. Temperature 102, pulse 130, regular and strong. Heart and lungs and kidneys normal. Complains of pain in region of umbilicus. Some tenderness there and in right inguinal region. Spleen not enlarged.

Treatment: Exclusive rectal alimentation for three weeks. McBurney's incision 5 cm. long. Appendix found bent by two bands of adhesions. Appendix congested and filled with dark, bloody fluid. Appendix removed in usual manner and stump buried with purse-string suture. Wound closed. Patient recovered normally, leaving the hospital March 29, 1901.

No. 8767.—Mr. Andrew B., a laborer, 36 years of age, admitted Feb. 19, 1901, gave the following history: At 13 he suffered from an attack of diphtheria, otherwise he has been well, with the exception of having occasional slight stomach disturbances. In December, 1900, he had pain in lumbar region, which patient thought was rheumatism. He stopped work for a few days. On Jan. 23, 1901, he began to feel ill, an hour later had a chill followed by vomiting and abdominal distention. Diffuse abdominal pains. January 28 pain became localized in right inguinal region and on the 29th he had marked pyrexia. Confined to bed about two weeks, since then quite well, except some soreness in right inguinal region.

Present Condition: Fairly well nourished, 30 pounds under weight, tongue slightly coated, appetite good, but if he takes nourishment there is an increase in the pain and gaseous distention and patient experiences nausea. Patient has the appearance of being very ill, although he has been out of bed and able to walk about a little. Heart and lungs normal. Abdominal wall thick. Considerable resistance and marked tenderness in right inguinal region. Considerable gaseous distention.

Treatment: Patient placed on rectal alimentation for three days, mainly for the purpose of overcoming the gaseous distention, previous to performing the operation. Operation February 22. McBurney's incision, which was lengthened by extending incision along outer border of rectus abdominis. Appendix found adherent in a mass, and perforated 3 cm. from cecum. Appendix loosened from adhesions and removed. Stump buried with purse-string suture. Primary incision closed. Counteropening made opposite anterior superior spine and glass tube and gauze drainage inserted. Wet dressings. Patient recovered normally and left the hospital April 8, 1901.

No. 8836.—Mr. Chas. A., an engineer, 33 years of age, ad-

mitted March 5, 1901, gave the following history: He had experienced the diseases of childhood, otherwise he had been quite well. Twelve days ago was taken with a diffuse pain in abdomen, not very severe, able to be about, no vomiting or constipation, but nausea. Ten days ago was taken with severe pain, colicky, all over abdomen, severe nausea, but no vomiting. About one day later, pain localized in right inguinal region. Improved slowly under treatment with exclusive rectal alimentation and four days ago was able to be up. Two days ago pain recurred after eating a little, whereupon nourishment by mouth was again prohibited for five days.

Present Condition: Fairly well nourished, tongue thickly coated. Temperature 98.3, pulse regular and strong. Heart and lungs normal. Considerable resistance and tenderness in right inguinal region.

Operation: March 8, 1901: McBurney's incision. The appendix was found adherent to the lower end of the cecum and the anterior surface of the iliacus muscle and surrounded by the omentum. It was bent upon itself in the form of an interrogation point, club shaped at its distal end and perforated near its end and surrounded by a slight amount of pus. Appendix removed, wound drained. Patient recovered normally, leaving the hospital April 12, 1901.

No. 8872.—Maurice R., 13 years of age, school-boy, entered hospital March 13, 1901, giving the following history: The family history is good with the exception that father has suffered from an attack of appendicitis, one sister was operated for recurrent, non-perforative appendicitis and one brother for acute perforative appendicitis complicated with diffuse peritonitis. The patient has always been well with the exception of having an attack of typhoid fever two years ago, and one year ago had a severe pain in right inguinal region with slight pyrexia. Pain severe for about two days, since then has not felt very well, having a constant grumbling pain in right side. About twenty-four hours ago was seized with a sudden pain in right side. Pain very severe up to present time. Being under the direct care of his sister, who had experienced severe attacks of recurrent appendicitis, feeding by mouth was at once prohibited.

Present Condition: Fairly well nourished, general condition good. Considerable rigidity and tenderness in right inguinal region.

Treatment: McBurney's incision. Proximal end of appendix constricted, distal end enlarged, curved on itself in the shape of a question mark. Surface covered with lymph. Removed; stump buried; wound closed. The end of the appendix contained a hard fecal concretion and pus. The mucous membrane was ulcerated and the end of the appendix appeared as though it were about to perforate. The appendix was surrounded by the omentum, which had already become attached by a fine layer of plastic lymph, completely separating the infected organ from the remaining portions of the peritoneal cavity. The patient recovered normally and was discharged from the hospital April 2, 1901.

This case is interesting especially because it shows how early after the beginning of an attack the general peritoneal cavity will be protected against infection.

No. 8879.—Miss Hanna J., a housemaid, 26 years of age, came under my care March 14, 1901, giving the following history: Two brothers and father had stomach trouble, otherwise family history was good. She had had the ordinary children's diseases, otherwise well. Began to menstruate at 14, regular and painless. For several years patient has complained of bilious attacks, coming one to four times a year. During these attacks she was taken with fever, vomiting and some pain in epigastrium, lasting from one to three days, leaving a soreness in epigastrium. About one year ago, patient had a more severe attack than usual. Patient was taken with vomiting, pain, pyrexia and pain in epigastrium, which radiated to right inguinal region, leaving a soreness there. The attack lasted three days. October, 1900, had a similar attack, but not so severe. Eight weeks ago, patient was taken with pain in stomach, about five hours later began to vomit the pain becoming more severe. A few hours later radiated to right inguinal region. No pyrexia. This lasted about three days, then patient got up and was around for four days when she began to feel badly again but was not compelled to go to bed for three days after this, when she was confined to bed for two weeks with pyrexia. Was given no food by mouth for ten days. Pain and soreness in right inguinal region. She said she could feel a mass in right inguinal region the size of a goose egg.

Present Condition: Well nourished, slight coat on tongue, appetite good, bowels regular, temperature 99, pulse 62, regular and strong. Heart and lungs normal, abdomen not distended, no abdominal dullness on palpation, slight tenderness and resistance in right inguinal region.

Operation: March 15; incision through right rectus abdominis muscle 19 cm. long. Appendix perforated and universally adherent. Appendix removed and wound closed. Recovery normal, patient discharged from hospital April 9.

No. 8896.—Mr. Oscar L., a factory worker, 21 years of age, came under my care March 18, and gave the following history: He had had measles as a child, and at 12 had some trouble with left hip which confined patient to bed for thirteen weeks. March 21, 1901, nine days ago, had slight diffuse pain in abdomen for two hours, after that felt perfectly well until five days ago when supper did not taste very well and at 10 p. m. that night began to have slight pain in abdomen, then severe vomiting, then pain became very severe, more pronounced in right inguinal region. Vomited all first night and following morning after taking coffee. Since then has had nothing by mouth. Vomited only once, but is still nauseated. Temperature 103 F., pulse 110 per minute.

Present Condition: Well nourished, but has appearance of being extremely sick. Tongue thickly coated, face flushed, quite thirsty. Heart and lungs normal. Abdomen considerably distended, considerable tenderness, more pronounced in left inguinal region. No dullness, quite tympanitic.

Exclusive rectal alimentation for four days. After the second day the temperature and pulse were nearly normal and at the end of the fourth day his general condition was so much improved that it seemed likely that he was suffering from a catarrhal instead of a perforative appendicitis, hence I consented to operate instead of continuing the treatment.

Operation: March 22; McBurney's incision. Peritoneum and intestines inflamed. General peritoneal cavity packed away with a large pad. Cecum and appendix loosened and a large abscess opened into. This sponged out, and perforated appendix containing a large fecal stone removed subperitoneally, clamped, ligated, removed, not covered in by purse-string suture, as cecum could not be brought up. Glass and iodoform gauze drainage. Wet dressings.

The patient died on the fifth day after the operation from diffuse peritonitis.

There is no doubt in my mind but what this patient would have recovered fully had his operation been postponed for a few weeks. When he entered the hospital his condition was so serious that it seemed certain that he would die were he operated upon at once. His general appearance was exceedingly bad. His abdomen was greatly distended with gas and exceedingly tense. His condition improved so rapidly after applying gastric lavage and prohibiting all oral feeding, that it seemed likely that our first diagnosis of perforative appendicitis must be wrong. Hence too early operation with disastrous result.

No. 8963.—Mr. Alex. S., a boy 16 years old, admitted April 1, 1901, gave the following history: He had had children's diseases, otherwise he had been well until four years ago when he had typhoid fever. Shortly after convalescence he took a severe cold, followed by pneumonia, then by empyema on right side. He has had two operations for empyema. Has been perfectly well except slight discharge from sinus on right side of chest, until two weeks ago. At this time patient's stomach troubled him a little. Six days ago in the evening after eating heartily he was taken with pain and vomiting (pain in epigastrium). Pain continued during night and then felt fairly well for next two days. Two days ago ate a hearty dinner, four hours later was taken with severe pain over lower portion of abdomen, then followed a few hours later by vomiting, which was extremely violent. The abdomen became greatly distended

with gas and patient was in a condition of severe shock. The pain at this time was diffuse and it was not possible to determine the cause of the intestinal obstruction positively. Gastric lavage and exclusive rectal alimentation were employed. These symptoms persisted about thirty-six hours, for past twelve hours has had no pain.

Present Condition: Fairly well nourished; hungry, bowels constipated, tongue coated. Pulse 104, regular and strong, temperature 99. Nothing abnormal on percussion of abdomen. Slight tenderness in median line about two inches below umbilicus.

Treatment: Exclusive rectal alimentation was employed for two weeks. Operation April 17, 1901. Incision through right rectus abdominis muscle 8 cm. long. Peritoneum found studded with tubercles and intestines adherent. The appendix and cecum are in a mass of tubercular tissue to such an extent that it was not possible to remove the appendix without leaving large raw surfaces. Consequently none of the tissues were disturbed. The free peritoneal fluid was sponged away and the abdominal cavity closed. In these cases our results have been very satisfactory whenever we have simply closed the abdominal cavity, while they have been the reverse whenever we have removed portions in cases in which it was not possible to cover the raw surfaces thus produced. The patient made a normal recovery, leaving the hospital May 17.

No. 8984.—Mr. Andrew G., 36 years old, laborer, came under my care April 7, 1901, giving the following history: Family history good. Was healthy during childhood; had diphtheria at age of 18, inflammatory rheumatism at 28 for a period of three months; had a recurrence at 31 for one month. Eighteen months ago had a varicocele operation. Nine days ago he noticed a diffuse abdominal pain, which came on slowly and continued for six days, being less severe at night, especially if the patient lay on his right side. It became localized in the region of McBurney's point. Two days ago, after taking a cathartic, the pain increased greatly and nausea and vomiting occurred and the patient became seriously ill, indicating the diagnosis of perforative appendicitis. Feeding by mouth was at once prohibited and the patient began to improve at once. The nausea and vomiting disappeared, the abdominal walls became less tense, gaseous distention decreased and his general appearance improved.

Present Condition: Well nourished; patient feels hungry; tongue is coated; flatus is expelled; temperature and pulse are normal; heart and lungs and kidneys are normal. The abdomen is asymmetrical. In the right inguinal region there is a mass the size of a hen's egg which is firm and tender upon pressure. Result of varicocele operation perfect. The improvement in the condition is attributed to the fact that no food has been given for two days. The patient was placed on exclusive rectal alimentation for eleven days. In the meantime the induration has decreased, so that now it is only the size of a walnut and not tender. In every way the patient's condition is good.

Operation: April 18, incision five inches in length through outer border of right rectus abdominis muscle. Cecum and ileum adherent to omentum. Appendix adherent behind cecum, perforated in a small abscess cavity, containing a dram of pus. Appendix very brittle, breaking several times during manipulations. Abscess cavity sponged out and drained. Wound closed. Patient recovered normally. Left hospital May 19.

No. 9000.—Mr. L. C. H., teamster, 19 years of age, came to the hospital April 9, 1901. He gave the following history: He had always been well. On April 7 he was taken with frontal headache, slept fairly well that night, but awoke feeling worse, and began to have a diffuse abdominal pain. After taking some medicine began to vomit and could not get bowels to move. Vomiting persisted, until all mouth feeding was stopped the following day. Pain persisted and became localized in right inguinal region on second day. Bowels moved with simple enema on the 10th.

Present Condition: Patient appears and feels very ill, face anxious but flushed. Well nourished, tongue coated, hungry, and especially thirsty. Heart and lungs normal. Abdominal muscles held rather tense, a little more so in right lower quadrant. Tenderness at McBurney's point, abdomen distended with gas. Temperature 101 F., pulse 90. Patient was placed on exclusive rectal alimentation for six days. His condition improved from day to day, all the serious symptoms disappearing by the end of the third day.

Operation: May 15, incision through right rectus muscle 10 cm. long. Appendix severely congested, shortly bent and constricted at its cecal end, tied down in a bed of adhesions its entire length to posterior surface of cecum. Mesenteric glands enlarged, the largest the size of a bean. Appendix removed by separating base first and then dissecting towards apex of appendix. Apex of appendix extended up behind the gall-bladder. Wound closed. Appendix contained ulcerated areas of the mucous membrane, a fibrous constriction near the cecal end, and its lumen contained pus and fecal material. Patient recovered normally, leaving hospital on May 13, 1901.

No. 9002.—Mr. Simon Q., an iron-worker, 40 years of age, came under my care April 10, 1901. He gave the following history: One brother died of carcinoma of the stomach and mother of asthma. He has twelve brothers and sisters and father, living and well. From four to six he was troubled with some infection of neck. Between 14 and 19 he was troubled with dyspepsia. Four weeks ago was taken with severe pain in region of umbilicus, vomiting and chill. Ingestion of food or water aggravated vomiting, pain became more diffuse, but patient continued to work until two weeks ago, when he became too weak to work. About this time pain became localized in right inguinal region, pain and vomiting persisted.

Present Condition: Somewhat emaciated, tongue thickly coated, dentine on every tooth exposed. Appetite poor, bowels constipated, heart and lungs normal. Abdomen considerably distended, but soft. No abdominal tenderness, temperature 99 F., pulse 62, regular and strong. No history of jaundice or vomiting before this attack. Has been constipated for years. Patient placed on exclusive alimentation for five days. Gastric lavage employed. Nausea and vomiting subsided and gaseous distention disappeared. April 14, patient's general appearance has improved greatly. Abdomen scaphoid. Tympany has subsided almost completely. Some tenderness under left costal arch, where there is a slight swelling, which moves downward on inspiration. Has had bleeding from hemorrhoids for several years. A few hemorrhoids, otherwise rectal examination negative.

Operation: April 15, incision through right rectus muscle. Appendix severely congested, as the result of acute inflammation, club-shaped and adherent; constricted at cecal end, contains gas, fecal material and mucus. Its mucous lining is obliterated. An apparent old tear in serous covering of cecum sutured. Appendix removed in usual manner. A carcinoma, size of goose egg, involving transverse colon, just to right of splenic flexure. The lymphatic glands in the mesentery are secondarily involved. Adherent small intestines loosened and tear sutured by silk Lembert sutures. An anastomosis with needle and thread made between sigmoid flexure and transverse colon 7 cm. long. Wound closed. Patient recovered normally. Left hospital May 15.

These histories comprise all of the cases of acute perforative appendicitis I have operated in the Augustana Hospital during the past four months. There is but one death among them, and that must be credited to a lack of judgment. The histories, although necessarily much abbreviated, give a clear idea of the progress of the disease in such cases whenever this form of treatment is employed. I am positive that the mortality would have been at least four times as great had all these patients been operated at once, upon admission. There are three cases which do not properly belong in this group, because perforation had not actually taken place, but I am confident that this was only prevented by the treatment. Moreover, each one of these cases had quite advanced peritonitis at the time of admission, which would undoubtedly have progressed rapidly had not peristalsis

been inhibited. In each of these cases the attack was exceedingly violent until this form of treatment was instituted, but subsided very promptly after commencement of this treatment.

CONCLUSIONS.

As a result of my clinical observations I am prepared to formulate the following conclusions:

1. Peristaltic motion of the small intestines is the chief means of carrying the infection from the perforated or gangrenous appendix to the other portions of the peritoneum, changing a circumscribed into a general peritonitis.

2. This can be prevented by prohibiting the use of every kind of food and cathartics by mouth, and by employing gastric lavage in every case in which there are remnants of food in the stomach or in the intestines above the ileo-cecal valve, as indicated by the presence of nausea or vomiting or meteorism.

3. The patient can be supported by the use of concentrated predigested food administered as enemata not oftener than once in four hours and not in larger quantities than four ounces at a time.

4. This form of treatment, when instituted early, will change the most violent and dangerous form of acute perforative or gangrenous appendicitis into a comparatively mild and harmless form.

5. Cases of perforative or gangrenous appendicitis, with beginning general peritonitis, can usually be carried through the acute attack safely with this method.

6. In all cases of this class gastric lavage should be practiced in order to prevent the absorption of decomposing material from the alimentary canal.

7. In cases of doubtful diagnosis this form of treatment should always be employed.

8. This treatment will prevent a large proportion of the most troublesome complications and sequelæ of appendicitis, such as ventral hernia, fecal fistulæ, extensive adhesions, etc.

9. The patient should be permitted to recover fully from his acute attack before an operation is performed, except in cases encountered within the first thirty-six hours after the beginning of an attack or in case of the formation of a superficial circumscribed abscess.

10. It often requires but a small amount of any kind of food to change a harmless circumscribed into a dangerous diffuse peritonitis.

11. The treatment does not protect the patient against a subsequent attack.

12. It does not contraindicate the removal of a diseased appendix before the septic material has extended beyond this organ.

13. It is indicated in all intra-abdominal conditions in which it is desirable to prevent the distribution of septic material by means of peristaltic motion.

14. The laity should be taught to stop feeding and giving cathartics to patients suffering from intra-abdominal diseases.

710 Sedgwick Street, Chicago.

Rhus Toxicodendron Poisoning.—This is the season of the year when all physicians resident in a large area of the United States are interested in a remedy of utility in case of rhus toxicodendron poisoning, when a patient presents himself with the usual symptoms of ivy or oak poisoning which are nearly all visible to the naked eye. Dr. R. S. Patterson, of Oakdale, Pa., uses glyco-phenique and aqua, equal parts; apply on lint without stint. If the case is a little chronic or two or three days old use glyco-plenique and olive oil, equal parts, locally. Neither of the above combinations of glyco-phenique will remove the stain of rhus tox. from the patient's clothing, but the tumefaction will fade out under its influence in a few hours.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

ADDRESS OF CHAIRMAN DELIVERED AT THE FIFTY-SECOND ANNUAL MEETING OF THE A. M. A., HELD AT ST. PAUL, MINN., JUNE 4-7, 1901.

HENRY P. NEWMAN, A.M., M.D.

CHICAGO.

Members of the Section and Guests: I am deeply sensible of the honor of the responsibility you have conferred upon me in selecting me to preside over the session of a body such as this, and in thanking you most sincerely, I wish also to thank you for having selected an aid so proficient as our secretary, Dr. Bonifield. Largely to his efforts is due a program which would do credit to any association of specialists in the world of medicine, and in spite of the fact that the work of your secretary is particularly difficult. Since we have no organization as a Section, and no connected existence beyond these annual meetings, there is lacking the stimulus of historical association. Beyond the papers and other scientific contributions which are read in session and then published only in part and scatteringly in THE JOURNAL, the record of our proceedings is lost from year to year, and there is no continuous and organic relation such as there should be between the periods of our work. This, it seems to your chairman, is where lies greatest need for improvement, and my suggestion to this meeting would be that permanent organization be effected, that a permanent secretary be appointed who shall keep the minutes of meetings and attend to the publishing in a suitable volume of the entire proceedings, including papers.

With the growth of the Association it has become necessary, or at least expedient, to propose a reorganization of the work of the general body, thus saving to the members the valuable time now consumed in the general meeting.

The establishment of the proposed House of Delegates will give opportunity for a closer and more permanent organization of the different Sections, and will result, I am convinced, in more efficient work. As the list of papers and participants shows, this gathering of gynecologists and obstetricians has assumed proportions and an importance second to none in existence and worthy of more thorough and reliable organization than the haphazard annual method now in vogue.

SCIENTIFIC PROGRESS.

In calling your attention to the year's progress in gynecology and obstetrics, as required by the By-Laws of the Association, it is only necessary to mention briefly such events as seem to have the most direct relation to the growth and development of this branch of science, leaving it to time and your good judgment to determine their value.

ANESTHESIA BY LUMBAR PUNCTURE.

Among the most noteworthy and widely discussed of such events is the clinical adoption by some of our leading authorities of the method known as cocainization by lumbar puncture.

Testimony as to its usefulness is of the most conflicting nature. The procedure originated with Dr. Leonard Corning, of New York, who proposed it as long ago as 1885, but did not practice it except in laboratory experiment. Bier, of Germany, made the first injection into the cephalo-rachidian liquid. Tuffier next became a supporter of the method and, after one or two former papers, has just brought out a most favorable report

covering 400 cases. He reviews carefully the literature of the subject, and subjects the reported mortality, 6 in 2000, to severe analytical criticism. He claims that in no case could death be properly attributed to the injection. He is just as positive that there is no danger of permanent nervous affections following the operation. Reclus, of France, however, is a vigorous and logical opponent, and makes statistics put a discouraging aspect upon the experiments so far conducted.

Our own writers seem to agree in preferring general anesthesia by chloroform or ether, except where, for any reason, these are positively contraindicated and a substitute must be found. The limits of this operation are, therefore, somewhat restricted, and it will probably never be as popular on this side of the Atlantic as with our foreign colleagues.

Tuffier claims that with a perfect technique and practical operator there would be no failures and no danger, but it is being recognized more clearly every day that in such a proceeding the patient plays a very important part. Already it has been conceded quite generally that it is not applicable to children or to extremely sensitive adults, particularly women, or where major pelvic or abdominal operations are required.

It would appear that perfect consciousness, even with freedom from pain, is not an advantage to the patient, and it is easy to understand the unpleasant impression described by Morris Richardson on seeing women, in a foreign clinic, pallid, ghastly, and with every evidence of profound mental and physical shock, consciously undergoing major operations upon their own viscera and witnessing all the details of the occurrence. In obstetrical operations the method has been found unreliable on account of the difficulty of timing the anesthesia to correspond with the moment of greatest necessity, several injections being sometimes required. There is no relaxation of muscular tissue as in chloroform and ether narcosis, and its use seems rather to retard than hasten the delivery. For the latter reason the method is contraindicated in operations which demand such relaxation and in difficult laparotomies.

It is probable that before you listen to another report from this chair the position and limitations of lumbar anesthesia will be definitely fixed.

PROTOZOON OF CANCER.

If the experiments of Gaylord, of Buffalo, prove that the organism which he has successfully isolated and reproduced by culture inoculation is the protozoic parasite of cancer, our conception of the dread disease and our established therapy will need to be reconstructed. If these parasites invade the general circulation quite early in the disease, a proposition now occupying the attention of Dr. Gaylord and his associates, it would, on hasty observation, seem futile to attempt to cure by the knife. There remains, however, so much laboratory and clinical work yet to be done before the exact relation between the parasite recognized in the circulation and the local manifestation of the disease, that it is yet too early to acknowledge discouragement with methods so far the best at our command, and to which many a sufferer apparently owes health or positive amelioration. These findings, if indisputably established, should only stimulate us to greater zeal in palliative efforts and in the endeavor to recognize and eliminate the local nidus before the period of circulatory contamination. And until a specific shall be discovered, to destroy the parasite itself, the new theory of the disease will not prevent surgical interference up to the eleventh hour of the patient's need. It should, however, substitute enthusiasm in early diagnosis for that of late radical surgery, and would militate against the employment of two extreme methods. In the early recognition of suggestive symptoms by the patient, and of the first pathological changes by the physician, are we to find our most certain relief. The rapid increase of uterine cancer as certified to the best authorities, can, according to our present knowledge, only be curtailed by early correction of all lesions of epithelial surfaces about cervical, urethral, vaginal and rectal orifices. In the cervical area we have most simple and effectual means of eradicating such danger points. When the indications exist, "trachelorraphy" contemplates and accomplishes the entire removal of the cancer-bearing tissue, if we may speak as we do of "pile-bearing areas."

The presence of submucous or cervical fibroids subject to continual irritation is, directly or indirectly, a menace, and calls for ablation.

REMOVAL OF LYMPHATICS.

In reference to the attempted removal of the whole lymphatic system of the pelvis as advised by Ries, Clark, Prior, Werder and Bovée in our own country, and by Rumpf, Chalot, Wertheim and Freund abroad, Jordan, of Heidelberg, at the Thirtieth Congress of the German Surgical Society, stated his belief that the glands become affected only at a late stage and in rare cases, that it is impossible to remove them all, and that partial removal has no object. He recommends the vaginal route in removal of the cancerous uterus, and the employment of Schuchardt's para-vaginal incision. Olshausen, of Berlin, agrees with Jordan, and considers only such cases operable in which the cancer has not gone beyond the boundaries of the uterus. He does not think Schuchardt's incision called for in more than three quarters per cent. of all cases, and considers the abdominal route admissible only in cases where the vaginal is technically impossible. Martin, of Greifswald, holds the same opinion as Jordan, while Wertheim, of Vienna, takes the opposite view. He prefers always the abdominal route, and removes the connective tissue surrounding the uterus and the lymphatic glands, having found them affected in 36 per cent. of early cases.

OVARIAN TRANSPLANTATION.

The past year has done much to establish the operation of ovarian grafting or transplantation as a logical procedure and one worthy of careful and conscientious experiment. The honor of the original idea is given abroad to Knauer, of Germany, whose first publication was dated in May, 1896. As R. T. Morris, of New York, had already published in October, 1895, the results of his first experiments, we may be pardoned for laying claim to a division of priority for our American confrère. As the work of Knauer had continued for a year before his results were given out, it would be profitable to take cognizance of his early experiments. To recall briefly the end in view, the technique followed and the results obtained, we have the following: The object of Knauer was to ascertain if, in animals, ovaries extirpated and then transplanted in any other portion of the peritoneal cavity were still capable of living and functionating normally, that is, to form and expel regularly fructifiable ova. His experiments consisted in removing, under strict asepsis, the two ovaries of certain rabbits and then grafting them in some other part of the peritoneal cavity. Most often the organ was placed in a sort of pocket created in the serous membrane in the neighborhood of the tubes, and where the organ,

only partly buried, kept a portion of its surface free in the peritoneal cavity. The results were such as to warrant the author in affirming that in the rabbit ovaries can be transplanted into any region whatever of the peritoneal cavity and that they will continue not only to live, but to functionate, that is, to produce ova and carry them to maturity. These conclusions were confirmed and extended by Gregorieff, who, out of twelve rabbits submitted to ovarian grafting, succeeded in fecundating four. Morris has gone still further; having extirpated the diseased ovaries of a patient, he took a healthy portion of one of the glands and grafted it in the vicinity of one of the tubes. One month after leaving the hospital the woman became pregnant, but aborted, unfortunately, at three months. The possibility of pregnancy after transplantation of the ovary was thus demonstrated. It remained only to prove that gestation could proceed normally and result in accouchement at term. This proof has been furnished by Knauer. On Sept. 8, 1896, he practiced transplantation of ovary in a rabbit in the manner before described. He opened the animal thirteen months afterwards to observe the state of the glands. One was completely atrophied, but the other had preserved its normal volume and aspect and contained three follicles almost at maturity. The abdomen was closed, and two months afterward the animal was put to the male. On Jan. 3, 1898, she gave birth to young, a male and a female, perfectly developed.

A. Palmer Dudley reported at the Amsterdam meeting of the International Congress of Obstetricians and Gynecologists a striking case of transplantation of the ovary into the cavity of the uterus, and the Italian Marchese bases the following conclusions upon eight experiments upon dogs followed by autopsies and microscopic examinations: 1. Transplantation of the ovary is possible in animals. 2. It is always preferable to abandon the ovary in a free cavity or near lax tissue rather than where the tissues are muscular or robust. 3. One should prefer the grafting of an entire ovary to that of simple fragments. 4. The ovary should be furnished with a small pedicle from the neighboring tissues, which will serve to fix it in its new position. 5. If all the conditions are realized, one can be sure that, even in an abnormal situation, the ovary will continue to functionate

Mauclaire concludes that the experiments so far conducted prove that auto- and hetero-grafting will be successful if properly performed and the ovary is aseptic. Such grafts should result in modifying menstrual troubles and those consecutive to ovariotomy. In his opinion, it is advisable to make such grafts even after the menopause, with the object of conserving the internal secretion of the ovaries, which, according to the physiologists, is not lost with the external secretion.

TUBAL EPITHELIUM.

Mention should be made of the exhaustive work of M. Voinot, of the faculty of Nancy, who has studied the modifications of the tubal epithelium during the entire life of the woman. Studying the tube first before and after the period of genital activity, he has seen that during these two phases of life, contrary to that which has generally been accepted, there are ciliated cellules on the epithelium constant before puberty, quite eventual after the menopause. Before puberty these ciliated cellules are encountered for the most part at the pavilion, less often in the ampulla and in the isthmus very exceptionally in the interstitial portion. After the menopause it is only in the ampulla that they can be found. At a very advanced age they disappear even in situations where the epithelium remains freely cylindrical. Both before and after the menopause, the tubal epithelium presents great irregularities, but the irregularity is not the same in both cases. Before puberty it affects principally the constitution of the cellular protoplasm and nucleus. After the menopause the irregularity is observable principally in the form and elevation of the cellules. The characteristics of tubal epithelium during genital life is the presence of curiously repeated groups of ciliated and non-ciliated cellules. At the pavilion and the interstitial portion the cellules are almost all ciliated. In the ampulla and isthmus they are ciliated.

LeCount, in his study of the genesis of carcinoma of the Fallopian tube in hyperplastic salpingitis, has shown that gynecologists have taken but little cognizance of an inflammation of the lining of the tube associated with polyp-like or villous growths such as occur on other mucous membranes. He cites nine cases of hyperplastic salpingitis that have been variously reported as examples of carcinoma or papilloma of the tube. Five of the twenty-two cases of carcinoma gathered from the literature were removed during the transition that occurs between this form of salpingitis and carcinoma. His study of the subject resulted from the examination of a tubal carcinoma removed by Newman, of Chicago, which is the third so far reported in this country.

The value to the gynecologist of researches of this kind can not be overestimated in connection with his study of the important lesions to which these organs are subject.

PERMEABILITY OF THE AMNION.

The permeability of the amnion has been demonstrated by the experiments of Moisseney upon female guinea-pigs.

His conclusions coincide with those of Bar, that the amnion is "not a closed sac which receives always and gives out nothing," that the internal membrane of the amnion is permeable and under certain conditions permits the passage to the mother of soluble substances contained in or injected into the amniotic fluid. The degree of permeability varies with the different periods of gestation, the rapidity of passage depending principally upon the epoch of fetal development, being slower as gestation advances, appearing very difficult near term.

A weak solution of cazluenoe red, 1 in 3 to 2 in 3 cubic centimeters, was employed in the experiments.

PARAFFIN INJECTIONS.

In further experimental research, we have the report of Gersung on his work with injections of paraffin for incontinence of urine due to traumatism. He succeeded in accomplishing the desired result by forming a valve whose rigid walls consisted of tissue impregnated with paraffin. A second injection was necessary, but three months later the patient treated was able to hold her urine five to six hours when active, ten hours when recumbent. Meyer, acting upon Gersung's claim that paraffin could be injected subcutaneously, would remain permanently, cause no reaction nor be absorbed, injected animals with various quantities, and found that a considerable portion was removed by absorption and could be found in the lymph glands. In one animal 20 per cent. of injected mass was lost after four weeks, and in another 50 per cent. after eight weeks. Halban has recently used the same medium in four cases of cystocele with satisfactory results. He injected the paraffin between the walls of the vagina and the bladder, then in-

serted a pessary for twenty-four hours so as to allow the mass to harden in the proper position.

CESAREAN SECTION.

Cesarean section for placenta previa is advocated by A. P. Dudley on the ground that it offers a method of saving two lives in place of risking one or both, and is practically free from danger if certain conditions are fulfilled. These are that an antepartum diagnosis shall have been made, and the operation done under aseptic conditions before the patient has become exhausted. The conservative Cesarean operation becomes more popular as perfection of technique and asepsis daily lessens the dangers of the procedure in comparison with other elective operations which endanger the child. Its limitations are broadening until we see its employment in placenta previa and in eclampsia as well as for the older indications. Hillman gives a favorable review of the history of Cesarean section for eclampsia. He adds one case in his own practice to 40 others already reported, and finds that 19 mothers and 17 children have been saved by this method. Knapp, of Prague, tabulates 19 cases of his own, 4 fatal treated by other than section.

The frequency of eclampsia is about 5 to 1000; 41 cases with 6 deaths gives a maternal mortality of 14.6 per cent. Child mortality is 31.8 per cent. Knapp agrees with Dührssen that Cesarean section is contraindicated in eclampsia, the mortality from this operation being too high.

According to Cestan and Peyran, to operate quickly, simply and cleanly is the most certain method of preventing hemorrhage, shock and infection, the three dangers possible in Cesarean section.

In this connection, Alain, of the faculty of Bordeaux, predicts the disappearance of feticide as a therapeutic measure.

ENTEROPTOSIS.

Glenard, of Lyons, who, in May, 1886, published his interesting observations upon neurasthenia and enteroptosis, attributing to prolapse of the intestinal mass a large percentage of the gastric symptoms which are always to be found, marked or veiled, in cases of neurasthenia, gave his name to a disease which is of late attracting much attention. Glenard stated his belief that neurasthenia is most often the syndrome of enteroptosis, and that there should be opened in nosology a special chapter on the subject in which shall enter as varieties of the disease the different splanchnoptoses such as floating kidney, movable liver and spleen, dilatation and descent of the stomach. This chapter is now being written by the work of Dock, of Ann Arbor, Illoway, A. K. Stone, J. J. Putnam and others.

Formerly what was known as the "vital theory" attributed the cause of this condition to a relaxing of the ligamental supports of the viscera. More lately it has been considered due to a lax state of the abdominal walls with decrease of the intra-abdominal pressure.

The recent work of Harris calls attention to such physical defects as narrowing of the mid-zone of the body which tend to displace the viscera downward for want of room. This may be considered the physical theory. In cases where appreciable separation of the recti muscles occurs, Webster's operation would seem to promise correction of the anatomical fault. Treatment by exercising the abdominal muscles by gymnastics or by means of a specially designed apparatus, as recommended by Turck, seems not only of value in correcting the anatomical defect, but in restoring physiologic conditions.

UTERINE FIBROIDS.

The subject of uterine fibroids and retro-displacements will be so well presented during the progress of this session, according to the promise of our program, that it would be encroaching upon valuable time to add more than that the advancement in the treatment of these common and always interesting affections has been gratifying, and that the experience of many years in many methods of treatment for the latter affection have brought the profession to a realization of the value under definite indications of the shortening of round ligaments as proposed by Alquie, Adams and Alexander.

It is especially gratifying to your chairman to note this rehabilitation of a proceeding so well adapted to its purpose but so slowly acknowledged, for the reason that he was one of its earliest advocates and in face of its early unpopularity.

Our foreign colleagues are growing more enthusiastic as time goes on, and are placing themselves on record with us as supporting it in suitable cases over all other elective operations.

Of special value in the treatment of bleeding fibroids, as well as in shock incident to the radical operations for their removal, is the popular employment of saline solutions by endemic or colonic injections. The necessity for improved methods of hemostasis and the value of conservative surgical interference grow upon us as we recognize the danger of the exsanguinated condition due to hemorrhages at or near the menopause. We have outgrown the mischievous theory that because fibroids may atrophy and disappear after the menopause it is safe to leave them to nature even where there is a possibility of such disappearance, the waiting is too hazardous, the hemorrhages themselves often producing such anemic conditions as to imperil the after-health of the patient.

Among the improved agents for surgical hemostasis should be mentioned the angiotribe, whose claims for recognition rest upon certain advantages: facility of use, greater certainty of hemostasis, more rapid and smooth convalescence, and the avoidance of such objectionable after results as hematoma, granulating and sloughing stumps, adhesions and cicatricial tissues. The progress of obstetrical technique and modern asepsis has been so great as practically to eliminate the problem of puerperal infections from consideration except as it is related to adventitious circumstances or to that sociological error, the ignorant midwife. Further advancement in this direction must be by way of educating others rather than laboratory research.

FUTURE OF GYNECOLOGY.

And it is in this aspect of gynecology that its greatest hope for the future lies, its place as guardian and educator of the patient rather than simply surgical referee in diseased conditions.

Nothing could be more disastrous to the worth and dignity of this specialty, which has occupied for so long so honorable a place in medicine, than to allow itself to be considered and spoken of as one of the surgical specialties.

We are but just arriving at the threshold of the greatest era in our history, in which the full value of prophylaxis is being recognized, and gynecological knowledge and experience are to be the re-creator and conservator of health in women. It is quite true that the skill of the competent general surgeon may guide him successfully into the pelvic cavity and out again without any recognition on his part or the part of his patient of lack

or incompetence, but surgery is not all of gynecology. It is a very brilliant department of the branch, but relatively unimportant when compared with the wider possibilities of gynecic science.

In this day, when the complexity of civilized social life makes such demands upon the physical constitution of the race, the public has come to recognize that the very existence of the species depends upon an improvement of its physical standards. Boards of health, public interest and encouragement are helping us on in our national and municipal efforts, but to whom shall be left the intimate and personal problems that pertain to the life of the girl and woman?

Only gynecology can rightly determine the importance of the developmental period and the relation between education, social habits and environment and the diseases from which so many women suffer; can estimate the individual need for functional development and teach women the relative advantages of prevention and cure in pelvic disease.

Whatever he may call himself, surgeon or general practitioner, he is a true gynecologist who takes this view of his work and becomes the prophet and propagator of prophylaxis. It is itself too broad a specialty to be merged into any other, and along this line it must grow, on the one hand perfecting its knowledge of pathology and etiology and its curative methods and on the other working to eliminate from modern life causes of disease in women.

THE OBSTETRICIAN.

In this the obstetrician has his part, and it is due to the importance of his work that he be given more time and consideration upon the programs of deliberative bodies such as this. An effort has been made by your chairman to give the obstetrical division of this session its due prominence by soliciting papers on practical topics from some of our leaders in the specialty. There has been too much neglect of obstetrical science as a specialty, a condition that worked harm both ways, upon the innocent patient and upon the physician. The belief among the laity that anyone who is graduated from a medical college is competent to conduct a case of obstetrics is still too prevalent. The results are often disastrous in the extreme to mother and child, and to practitioner because depreciation discourages professional growth. Growth there has been in spite of discouragement, as witness, for instance, the advancement of Cesarean section to its rational place in modern obstetrics. Its application to placenta previa might seem to the ultra conservative in the light of former practice as a most radical and uncalled-for innovation. We must, however, consider that the improved technique in abdominal and pelvic surgery renders what might seem bold and heroic methods safer than the delay and expectant treatment in so dangerous a condition as placenta previa with its estimated mortality of 50 per cent. At all events, in view of our modern aseptic and technical advancement, the classical indications for capital obstetrical operations need recasting, bearing always in mind that it is the conservation of life and health in both mother and offspring that is to be sought for in each individual case, remembering also that grave obstetrical operations demand the same environment as other surgical cases. In all cases the trained obstetrical nurse should supplant the monthly nurse; in all complicated cases the appointments of the modern hospital should be preferred to the makeshifts of home treatment. We should also remember that as we ascend in the scale of civilization we have a more highly organized individual to deal with, usually with greater departure from physiological standards and requiring greater skill and delicacy in management.

The connection should be as firmly established between obstetrics and gynecology in fact as in theory, and the benefit will be mutual. With progress in the right direction the former will outlive the latter specialty. There will always be need for intelligent obstetrics, while intelligent gynecology should eliminate itself at last by eliminating those conditions which are the cause of disease in women and its only excuse for being. Nothing but gynecology can eliminate gynecology.

Original Articles.

ORAL MANIFESTATIONS AND ALLIED STATES.

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Scurvy is a disease characterized by simple inflammation of the gums which gradually becomes chronic and deep-seated, and extends throughout the alveolar process causing its absorption and exfoliation of the teeth. This disease has passed under various designations: salivation, bromidism, plumbism, iodism, pyorrhea alveolaris, phagadenic pericementis, ptyalism and interstitial gingivitis. These terms merely define local manifestations in connection with other symptoms. The term interstitial gingivitis defines the precise pathologic change which occurs in the tissues.

Pathologic material for the study of scurvy in man is obtained with such difficulty in the recent state as to necessitate research upon animals. As the first step in investigation, two practitioners of comparative medicine, with an extensive hospital practice, were consulted as to the frequency of this disease in animals. All animals under their care suffered from it more or less, but 80 per cent. of dogs over 8 years of age had the disease. Nearly every dog in the hospital under their care was so affected. These dogs comprised all breeds. I found every phase of interstitial gingivitis in the mouths of these dogs, from its inception to the loss of the teeth. The roots of the teeth of some were covered with deposits and so exposed that the teeth could be removed with the fingers. Such badly diseased mouths are rarely, if ever, present in human beings. The outer plate of bone was absorbed, the roots entirely exposed, pus was oozing from around them and the mucous membrane was badly inflamed.

The mouth of a Scotch terrier is shown in Fig. 1. The molar and premolar had been removed with the fingers. The cuspids and incisors are quite loose. There are large deposits of tartar. The gum and alveolar process have been absorbed nearly one-half the length of the roots of the teeth. In Fig. 2 is seen the mouth of a Boston terrier with the incisors and premolars removed. There is extensive pyorrhea. There are calcic deposits upon the cuspids and molars. There is recession of the gums and alveolar process. In it one premolar in the upper and one in the lower jaw have been extracted. There is extensive inflammation of the gum about the molar, cuspid and incisor with large calcic deposits about the teeth. In Fig. 3 are shown teeth covered with calcic deposit the entire length of the root.

These teeth were removed by the fingers from the mouths of two dogs, one of whom was later obtained for scientific study. This was all the material to be obtained from the hospital, since the dogs were pets and had been placed under treatment by their owners.

Other necessary material was obtained from the dog pound. Ninety-five per cent. were mongrel curs leading a street life, hence neither luxurious diet or care could be charged with any disease in them. They have, at least, plenty of outdoor exercise and fresh air. In a general way, it was found that inflammation of the gums, especially about the canine teeth, was almost always present in dogs over one year. About 25 per cent. of these dogs at 4 years of age had the disease, 80 per cent. from 8 to 10 years, 95 per cent. over 12 years of age. Since I commenced my investigations (four years ago), I have examined quite a large number of dogs about homes, but I have never found a dog over 4 years without this disease to a greater or less extent. Many house dogs at one year had inflammation of the gums. Dogs for infection and those for mercurialization were picked up in the streets.

Most of the dogs exhibited at dog shows are young, ranging from 1 to 4 years of age. About 25 per cent. would range from 4 to 8 years. A casual examination of their mouths revealed interstitial gingivitis. Occasionally recession of the gums and pyorrhea alveolaris occurred. On a more careful examination, 25 per cent. of dogs between the ages of 1 and 4 were found to have interstitial gingivitis, and 75 per cent. of dogs from 4 to 8 years were found to have interstitial gingivitis with recession of the gums and pyorrhea alveolaris. In the study of this disease, therefore, dogs are excellent substitutes, since for pathologic research they can be obtained at any stage of the disease. The work was performed under the supervision of Drs. Ludwig Hektoen, W. A. Evans, Maximilian Herzog, Theo. A. Edwin Klebs, and Dr. Robert F. Zeit, pathologist.

The technique of the examinations of interstitial gingivitis and pyorrhea alveolaris in dogs was as follows: After fixing and hardening in 2 per cent. formalin, alcohol or Müller's fluid, the tissues were decalcified in a 5 per cent. alcoholic solution of nitric acid, imbedded in celloidin and stained in various ways, the principal ones being hematoxylin and eosin. Out of these slides have been selected a series illustrating the progress of the disease from the beginning to the loosening and exfoliation of the tooth.

Fig. 4 shows a longitudinal section of a cuspid tooth with the alveolar process *in situ*. The epithelial structure (E) is pulled away slightly from the edge of the enamel (A). In this section the infolding of the epithelium is shown at the neck of the tooth. This structure passes downward, folds outward and upon itself (AA), and returns two-thirds of the distance toward the gingival border, leaving a pocket (RR). The epithelium (E) is very dense and thick. The papillary layer of the submucous tissue (G) is very clearly defined. The capillaries (K) can be distinctly traced from the deeper fibrous tissue through the submucous layer into the papillary layer. The thick and heavy fibrous tissue of the periosteum ("Dental Ligament," Black) may be seen at H. inserted firmly into the cementum and extending outward and downward. Just below (AA) may be seen the interlacing of the coarser fibers of the periosteum with the finer fibers of the submucous tissue.

Figure 1.

Figure 2.

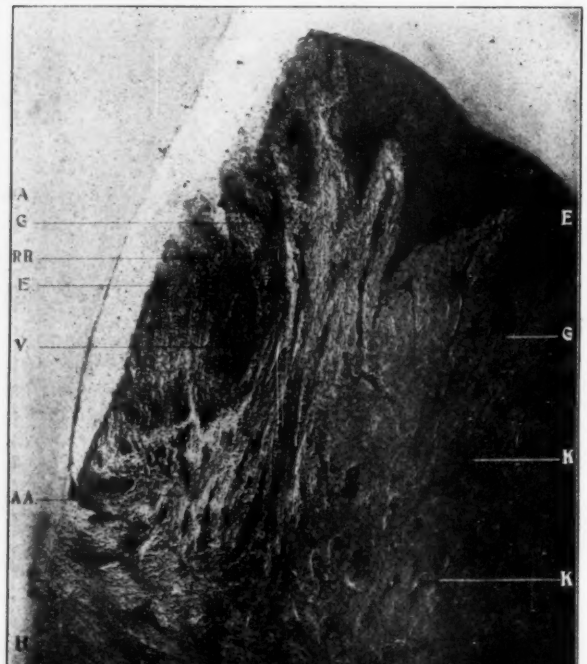
Chronic round-cell inflammation may be seen extending from the papillary layer through the capillaries into the interstitial tissue of the submucous and the periosteum. Marked inflammation has occurred at V. The openings in the folds of the epithelium are fruitful sources for the accumulation of food, epithelial scales and detritus, in which fermentation and decomposition from micro-organisms result, producing inflammation.

Fig. 5 is a section through the peridental membrane

Figure 3.

(I) and alveolar process (J) at the lateral incisor. The inflammation has extended down from the papillary layer through the submucous tissue of the periosteum into the peridental membrane and into the alveolar process. Round-cell inflammation may be seen in the blood-vessels extending through the Haversian canals (L).

Fig. 6 is a section of the peridental membrane and



X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 4.—Longitudinal Section of Tooth and Gum Tissue. Chronic Interstitial Gingivitis. Dog.—A, Enamel. E, Epithelial tissue. G, Submucous membrane. H, Periosteum. K, Capillaries. V, Violent inflammation. AA, Point of union of epithelial tissue and peridental membrane. RR, Space pocket from want of union of epithelial fold.

alveolar process, illustrating the effect of interstitial inflammation upon the blood-vessels and aveolar process. Chronic inflammation extends throughout the peridental membrane with very decided inflammatory change (V). The cut ends of the blood-vessels which were originally situated in the Haversian canals are seen at BV. They have become involved with the result of a thickening of the walls and endarteritis obliterans. The bone about these vessels has been entirely absorbed. The inflammation has extended beyond, into and through the Haversian canals, producing the type of absorption of the trabeculæ known as halisteresis ossium. Lacunar absorption has also occurred (O). Where decided inflammation (V) has taken place, abscesses are more liable to occur (as will be noticed later), from the large number of blood-vessels at this locality.

Fig. 7 is a section from another location of the alveolar process with a greater amplification, showing the inflammatory process extending through the alveolar process. Endarteritis obliterans may be seen in different localities (EO). Three forms of absorption are evident in this figure. Enlarged areas arising from absorption of the trabeculæ (halisteresis ossium) due to the inflammatory process. The vessels of Von Ebner precede perforating canal absorption (BB), distributed over the entire field, also the result of the inflammatory process and lacunar absorption (O) which may result from the inflammation. As long as the fibrous tissue remains in these large areas to retain the osteoblasts, new bone tissue may be produced under favorable conditions. On the other hand, when this tissue and the osteoblasts are destroyed, the alveolar process can not be restored.

X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 5.—Longitudinal Section of Alveolar Process and Peridental Membrane. Slight Interstitial Gingivitis, Extending into Alveolar Process. Dog.—J, Alveolar process. L¹, Inflammation extending through enlarged Haversian canals. I¹, Inflamed peridental membrane.

Fig. 8 shows a section of the alveolar process from another dog. Here lacunar and other absorptions (halisteresis ossium) are well shown. Thirty-seven osteoblasts (O) may be counted in the field while destruction of bone by halisteresis (Q) is rapidly going on. Remains of Haversian canals with the blood-vessels may be seen (BV, L). In the discussion of the peridental membrane

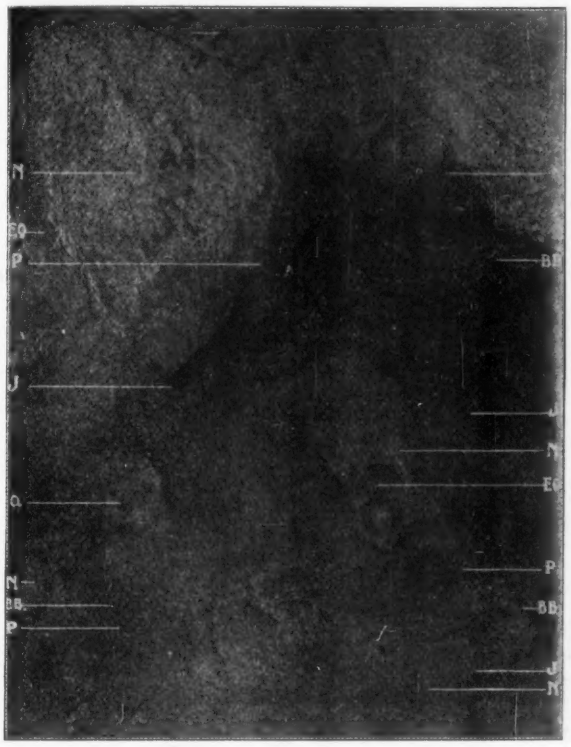
extending into the alveolar process, particular attention was called to the fact that large bundles of fibers extended into the process in such a manner as almost to isolate portions of bone. In the lower left-hand corner (X) may be seen two pieces of the alveolar process entirely separated from each other and the main body of the bone. In interstitial gingivitis it is not uncommon to find pieces of the alveolar process separated by halisteresis and lacunar absorption. When loose teeth are extracted as a result of this disease, pieces of the alveolar process come away with the peridental membrane attached to the tooth. In the upper left hand corner may be seen eight or ten new osteoblasts (O) in an enlarged Haversian canal, at work isolating one piece of the alveolar process from the other.

Fig. 9 shows a slide from still another dog. Halisteresis (Q) and perforating canal (P) absorption are here well shown. In the larger space at the lower left-hand corner may be seen two arteries (EO) which were originally the location of Haversian canals, and which have thickened walls and a tendency to obliteration. The light color shows decalcification, the dark normal bone. At P may be seen perforating canal absorption. At FG fat globules may be seen, while in the larger space at the upper right-hand corner is evident destruction of the fibrous tissue.

Fig. 10 is a section through the jaw and incisor tooth, showing the relation of the structures to each other in a severe case of interstitial gingivitis and pyorrhea alveolaris. The tooth is attached at only a very small portion of the apical end of the root. The disease has been of long standing. Absorption of the alveolar process on one side has progressed on fully one-half of the root, while upon the other about one-third the distance. Inflammation commenced at the gingival border and extended through the periosteum (H), peridental membrane (I) and alveolar process (J). Marked inflammation (V) has occurred in the mucous membrane fold. An abscess has formed with a fistula extending to the gingival border. The thin border at the left of the fistulous tract is the epithelium layer next to the tooth. It is evident that the pus burrowed to the surface through the structure instead of between the epithelium and the tooth. A similar abscess and fistulous tract are evident upon the gingival border on the opposite side of the tooth. The irritation produced by the movement of the tooth has caused the cementoblasts to deposit large quantities of material upon the sides and the end of the root. The main nerve trunks (U) may be seen at and below the end of the root.

X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 6.—Longitudinal Section of Tooth, Alveolar Process and Peridental Membrane. Violent Round-Cell Inflammation of Peridental Membrane, Extending through the Haversian Canals into the Alveolar Process.—C, Cementum. J, Alveolar process. K, Capillaries. L, Haversian canals. N, Large spaces arising from absorption of the trabeculæ, starting in the Haversian canals (halisteresis). O, Lacunar absorption. V, Violent inflammation. BV, Blood vessels, originally Haversian canals. P, Inflamed peridental membrane. L', Inflammation extending through enlarged Haversian canals.



X 150. D. D. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 7.—Longitudinal Section of Alveolar Process. Chronic Inflammation Extending throughout, showing Halisteresis, Perforating Canal and Lacunar Absorption. Dog.—J, Alveolar process. N, Large spaces arising from absorption of the trabeculæ, starting in the Haversian canals (halisteresis). O, Lacunar absorption. P, Perforating canal absorption. BB, Blood vessels of V. Ebner preceding perforating canals. EO, Endarteritis obliterans.

Fig. 11 illustrates the alveolar border on the right side of Fig. 10 greatly amplified. This shows the process of interstitial gingivitis extending through the alveolar process producing absorption with intense inflammation of the peridental membrane and abscess with fistulous tract.

Fig. 12 shows a similar process amplified from the left side of Fig. 10. It is interesting to note in this illustration that the fibers of the sub-epithelium pass down and become interwoven with the coarser fibers of the periosteum in just the opposite direction from those in the other side of the tooth, and in other illustrations. The fibers from the mucous membrane along the side of the tooth extend down and into the peridental membrane

without a break in the structure. The arrangement of the fibers of the submucous layer in producing the fold is well illustrated in the figure. This picture illustrates inflammation starting in the gingival border.

To secure a chain of evidence that interstitial gingivitl (due to the metals, drugs, uric, lactic and other acids) commenced in the papillary layer of the subepithelial. mucous membrane, I instituted a series of experiments in mercurialization of dogs.

Dogs for the purpose were picked up in the streets. Some of these were operated upon by myself alone, others with the assistance of friends. Care was taken tc secure those in health and with healthy gums. Mercury was introduced by the mouth, skin and hypodermic injection. It was no easy matter to get them under the influence of the drug, since the power of the glands to eliminate the poison was enormous. In no case was salivation produced. The first symptom noticed was exhileration, which would last from three days to a week. Then paralysis agitans would continue until death. In about a week the appetite would commence to fail and it was difficult to get the dogs to take food of any kind. The kidneys and bowels eliminated the poison. There was a rise in temperature. Some of the dogs died before gingivitis was observed. This demonstrated that not only does the nervous system become involved, but the organs of the body may be morbidly affected and death ensue before the gums show symptoms of disease. Some dogs were killed after the gums became diseased. The time required to obtain results was from three to eight weeks. The age and physical condition of the dog caused this variation in time. After death the gum tissue was dissected from different parts of the jaws and placed in either 50 per cent. alcohol, Müller's fluid, or 2 per cent. formalin.

Sections of tissue from the gum margin and sides were made on a number of places. Some were imbedded in paraffin, others in celloidin. The sections were stained according to various methods: Delafield's hematoxylin, eosin (Unna's), alkalin methyl blue, carmin, Gramm's stain, etc.

Microscopic examination showed that the epithelial lining of the gums did not present pathologic changes, but appeared normal in every respect. Connective tissue below the gum epithelium (the tissue analogous to the papillary layer of the derma and the derma proper) presented unmistakable evidences of a mild inflammatory process. There occurred in this connective tissue round-cell infiltration, generally moderate, but in some places quite dense. This cellular infiltration extended from below (where it was densest) upward into the papillary layer (Figs. 13, 14). The densest cellular infiltration usually occurred around the vessels (Fig. 14).

Under high magnification, the cellular infiltration was found to consist of polymorphonuclear leucocytes, plasma cells and plasmamast cells, the latter with coarse basophilic granulations (Figs. 15 and 16).

In some places were seen, between the round cells, short, broad fusiform cells, the protoplasm of which took quite well basic methyl blue. These cells resemble very much fibroblasts, and appear to be derivations of the plasma cells. No bacteria were found either in the areas of cellular infiltration (inflammatory areas) or elsewhere. In these cases it is obvious that there had occurred a mild inflammation of the gums (gingivitis).

X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 8.—Longitudinal Section of Alveolar Process. Chronic Inflammation Extending throughout, Showing Halisteresis and Lacunar Absorption. Dog.—J, Alveolar process. L, Haversian canals. N, Large spaces arising from absorption of the trabeculæ, starting in the Haversian canals. O, Lacunar absorption. Q, Halisteresis ossium or decalcified bone. X, Remains of calcified bone. BV, Blood vessels originally Haversian canals.

X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 9.—Transverse Section, Alveolar Process. Chronic Inflammation Extending throughout. Dog.—J, Alveolar process. N, Large spaces arising from absorption of the trabeculæ, starting in the Haversian canals. P, Perforating canal absorption. Q, Halisteresis ossium or decalcified bone. X, Remains of calcified bones. EO, Endarteritis obliterans. FG, Fat globules.

While this could not be seen with the naked eye, microscopic examination demonstrated histologic features of an inflammatory process. The absence of bacteria justified the belief that this inflammation was not of microbic origin, but due to mercury, which by its well-known chemotactic influence produced the histologic changes of an inflammation.

The bacteric etiology of interstitial gingivitis has been incidentally discussed by many writers.

Galippe[1] was probably among the first to make analytic experimentation in the bacteriology of this disease. He claims that there is found in the pus of pyorrhea a parasite resembling in shape the Greek letter N. Injecting this into the belly of a guinea-pig, abscesses resulted which had a special tendency to affect bone tissue.

X 15. 75 M. M. obj. Spencer. Micro-protograph, reduced four-sevenths.

Fig. 10.—Longitudinal Section of Tooth, Alveolar Process, Peridental Membrane, Showing Interstitial Gingivitis and Pyorrhea Alveolaris, with Tooth About to be Exfoliated. Dog.—C, Cementum. E, Epithelial tissue. H, Periosteum. I, Peridental membrane. J, Alveolar Process. K, Capillaries. L, Haversian canals. M, Fibrous tissue. R, Pus pockets. U, Nerve tissue. V, Violent inflammation. AA, Point of union of epithelial tissue and peridental membrane. CC, Cementosis. DD, Calcific deposits destroyed by acids.

Injections into the space between the teeth and gums were negative in result. Galippe regards his experiments as suggestions for further research, but not demonstrative. Miller,[2] after explaining his own methods, made a series of culture experiments on agar-agar blood temperature. Twelve cases of pyorrhea in human beings, and six in dogs, were examined. He isolated twenty different bacteria from human beings and nine from dogs. Among the twenty kinds, staphylococcus pyogenes aureus was found twice; staphylococcus pyogenes albus once; streptococcus pyogenes once. Of the other sixteen, nine subcutaneously injected produced no particular reaction, four a slight, three a severe suppuration in the subcutaneous connective tissue. Among the nine species found in dogs, staphylococcus pyogenes albus occurred once. Of the other eight, two subcutaneously injected caused no reaction, and five but slight. One caused very profuse suppuration by which large portions of skin exfoliated. Microscopic examination of stained sections revealed masses of different bacteria, cocci and bacilli. Leptothrix occurred infrequently, and then only on the surface of the cement, and where there were microscopical cavities in it. Miller succeeded, consequently, in cultivating a large number of bacteria from pyorrhea alveolaris which possessed pyogenic properties, but was not able to determine the constant occurrence of any one which might be regarded as the specific micro-organism of pyorrhea alveolaris. Miller remarks that it is not evident from Galippe's

X 40. 35 M. M. obj. Zeiss. Micro-photograph, reduced four-sevenths

Fig. 11.—Longitudinal Section of Tooth, Alveolar Process, Peridental Membrane and Gum Tissue, Showing Active Inflammation, with Pus Pocket. Dog.—C, Cementum. E, Epithelial tissue. G, Submucous membrane. I¹, Inflamed peridental membrane. J, Alveolar process. L¹, Inflammation extending through enlarged Haversian canals. M¹, Inflamed fibrous tissue. R, Pus pocket. V, Violent inflammation. AA, Point of union of epithelial tissue and peridental membrane. FF, Food containing micro-organisms.

communication whether he found the N bacterium in all cases examined or but once.

Sudduth, after repeated examinations, arrived at the same conclusions as Miller.

In order to determine whether a specific bacterium existed in the pyorrheic stage of interstitial gingivitis in man (necessary to constitute this stage a special disease), pus from more than fifty cases was examined. In all, the pus was obtained from the gums by a platinum needle under proper methods of sterilization. The pus from some cases was smeared on a slide. This was stained and such determination made as was possible with this procedure. With the pus from fifteen cases, agar was inoculated and placed in Petrie's dishes. The individual colonies were grown on gelatin, agar, bouillon, potato and blood serum. The results were as follows:

1. Die Infectiose Arthro-Dentäire Gingivitis, 1888.
2. Micro-organisms of the Human Mouth.

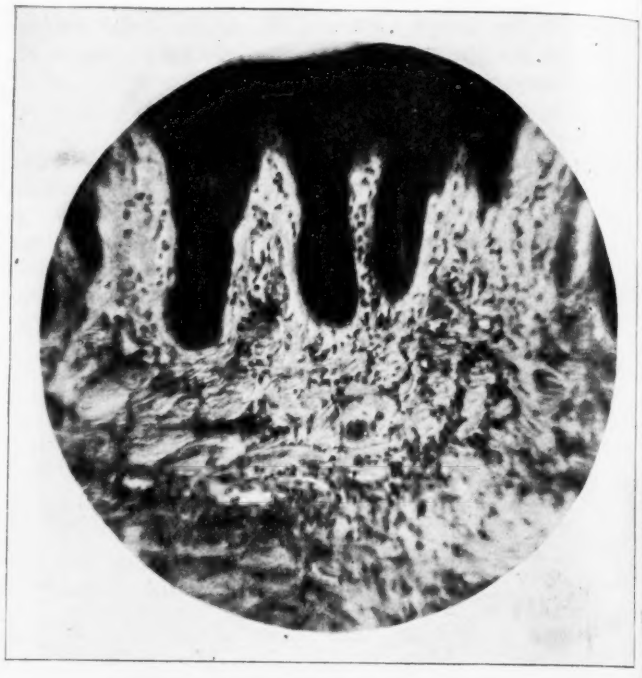
In fifteen cases in which the organisms were plated out, 55 organisms were found. In two there was no growth. Two had 1 species of germs, two had 6, one had 7 and one had 10. The germs found are divisible into three classes: Those usually pathogenic to man, those exceptionally pathogenic to man, and those never pathogenic to man. The first class were found 30 times, the second 12, and the third 13. Class third is, no doubt, seemingly smaller than it should be, since many members of it probably do not grow on ordinary culture media. Of the germs most frequent and important, staphylococcus pyogenes aurens occurred nine times, staphylococcus pyogenes albus six times and staphylococcus pyogenes citreus once. A lanceolate diplococcus, growing like pneumonococcus, was found six times. Streptococcus pyogenes was found twice. Bacillus coli communis was found twice. A bacillus growing like the diphtheria bacillus occurred twice. This last bacillus had the appearance of the Klebs-Loeffler bacillus. It lay on the slide like it and stained irregularly. Of the less important organisms, bacillus pyocyaneus was found three times, micrococcus tetrageaus seven times, leptothrix seven times, bacillus mesenteri·us twice, bacillus subtilis three times. There was also present a peculiar large club-shaped fungus somewhat resembling the degenerative forms of actinomycosis.

X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 12.—Longitudinal Section of Tooth, Alveolar Process, Peridental Membrane and Gum Tissue, Showing Active Inflammation with Pus Pocket. Dog.—C, Cementum. E, Epithelial tissue. J, Alveolar process. M', Inflamed fibrous tissue. R, Pus pocket. V, Violent inflammation.

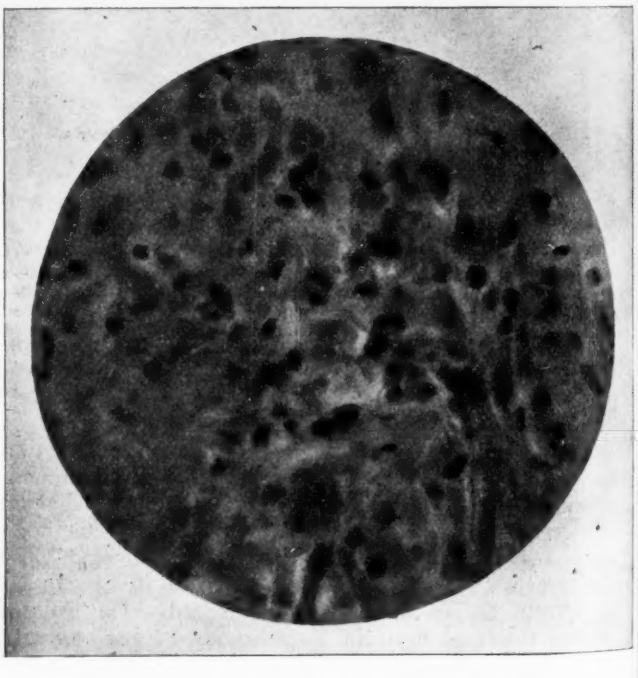
Did these examinations stand alone, definite conclusions could not be drawn from them. These, however, are admissible, since all observations on this subject tend in the same direction. While, as already stated, Galippe believed that he had isolated two bacteria capable of causing pyorrhea alveolaris, still he failed to produce the disease. This failure, according to the laws of Koch, is fatal to the position taken.

An examination of cases of interstitial gingivitis which had not reached the pyorrheic stage, had the following results: Pieces from the gum margin which had been fixed and hardened in a formalin solution were partly imbedded in celloidin, partly in paraffin. The sections were stained according to various methods, including Gramm's, eosin (Unna's) and alkaline methyl blue stain. The examination of the tissue shows an unchanged lining of stratified squamous epithelium, and, in the connective tissue below the former, well-marked evidences of an inflammatory process. The round-cell



Proj. ¼ inch, ocular 1½ inch. Spencer.

Fig. 13.—Longitudinal Section of Gingival Border, Showing Round-Cell Inflammation Due to Mercurial Poisoning.



Planachr. oil imm. 1-12 inch, ocular No. 3. Leitz.

Fig. 14.—Longitudinal Section of Gingival Border. Higher Magnification, Showing Connective Tissue Infiltration with Plasma Cells and Polynuclear Leucocytes. Dog.

infiltration is best marked in the deeper layers toward the periosteum, while the layers of connective-tissue fibers nearer to the lining epithelium show less evidences of inflammation and are partly entirely free from any round-cell infiltration. The infiltrating round cells are of the type of lymphocytes, plasma cells and plasma mast cells. Very large and typical mast cells are frequently found in the neighborhood of small vessels. Many of the vessels seen are quite tortuous, and the vascular supply of the connective tissue appears to be considerably increased beyond the normal. Bacteria could not be demonstrated in the inflamed areas.

Examination of the interstitial gingivitis, produced by mercury in dogs, failed to reveal any bacteria. The histologic changes of inflammatory type found were due to the chemotatic influence of mercury and not to microbic action.

In a paper read before the Section on Stomatology of the AMERICA MEDICAL ASSOCIATION, at Columbus, Ohio,

Planachr. oil imm. 1-12 inch, ocular No. 3. Leitz.

Fig. 15.—Longitudinal Section of Gingival Border. Higher Magnification, Showing Round-Cell Inflammation Extending to the Inner Coat of the Blood Vessel and also Plasma-mast Cells.

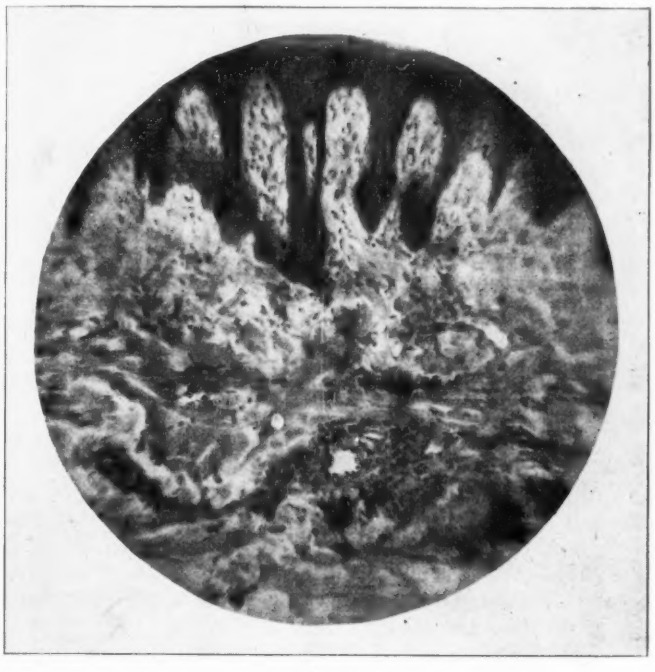
George T. Carpenter mentioned some very interesting experiments in this connection. By infecting a fresh wound in the gums of rabbits with pyorrhea and other pus he found the parts will remain infected only from two to five days. In other rabbits a rubber band was placed around teeth and pressed under the gums until inflammation resulted, when the parts were infected with pyorrhea and pus from a chronic ulcer; pus infection resulted.

Like experiments were made in the human mouth on gums which had been neglected as well as on healthy gums, and with similar results. His experiments tend to show that, when animals and men are healthy, the tissue resists infection; but when diseased, infection results. All yield to treatment.

On examination of pus taken from pyorrhea pockets, proceeding from acute infection, two competent bacteriologists were unable to find a micro-organism not found in pus from other infected tissues.

These results, in Carpenter's opinion, tend to show that a specific germ, to which pyorrhea alveolaris is attributable, has not yet been found.

The disease being so prevalent among dogs, it occurred to me that they would be of great value for experimental inoculation. The prevalence of the disease in dogs suggests that if it were a specific infection these must be inocuable. Miller[3] had made a few inoculations of pus as well as of the deposits around the teeth. Slight inflammation, and, in one case, a little suppuration alone resulted. He afterward isolated twenty different bacteria from the human mouth and nine from dogs. Some of the uncommon varieties were infective, but without marked results. Isolated varieties would probably not produce results that could be attained by inoculating animals with the fresh secretion (pus and other deposits) from dogs already affected with the disease. A dog was procured from the Veterinary Hospital whose gums and outer alveolar process were



Projection ¼ inch, ocular 1½ inch. Spencer.

Fig. 16.—Longitudinal Section of Gingival Border, Showing Round-Cell Infiltration in the Connective Tissue and Extending into the Papillæ. Dog.

almost entirely absorbed with pus exudate. Street dogs selected for inoculation were forty-six in number, ranging in age from 1 year to 7. They were of all breeds and conditions. Some were well fed, others very thin. Many had sound, healthy gums; others had slight inflammation at different localities. No dog was used whose gums and alveolar process had become infected or whose tissues were absorbed. Two dogs were operated upon at a time. The gum was separated from the necks of the teeth down to the alveolar process and peridental membrane—one-half at the canine, the other at the second pre-molar, since in a majority of cases the disease began at the canine tooth, probably on account of its prominence and the thinness of the alveolar process. The second pre-molar was selected because it is the least prominent. The secretions about the teeth and gums of the diseased dogs were collected upon a platinum wire (previously sterilized) and conveyed to

3. Ibid., p. 329.

the injured parts. Thirty-nine healed in eight days. In these the gum tissues were healthy. The pus had no effect. The wounds healed as rapidly as any wounds possibly could. In seven the gums were inflamed and infection occurred. Suppuration was slight in four and considerable in three. The pathologic findings in these cases were not unlike inflammation and infection in other tissues. Similar results would, no doubt, have taken place if inoculation had been performed with pus from an abscess. The last three dogs were allowed to depart at the end of four weeks with slight pus infection.

While hundreds of slides could be adduced in support of this chain of evidence, sufficient have been given to permit of the introduction of evidence from other phases of the subject.

(To be continued.)

ANTHRAX, WITH REPORT OF A CASE.*

WILLIAM ROUSH, M.D.
SPENCERVILLE, OHIO.

Anthrax is one of the rare but very interesting maladies afflicting the human race which few physicians have the opportunity of seeing in the active form. It is an acute, parasitic, infectious disease, known also by the synonyms of malignant pustule, splenic fever, rag-pickers, wool-sorters and furriers' disease, also Milzbrand and carbunculosus contagiosus and a number of others. As to its history and antiquity we know but little, but that it has existed for centuries there can be no doubt.

Blanc states that he finds our modern anthrax to have been the disease of the Egyptian plagues, but Hamlet on the other hand thinks this is only a matter of speculation.

To the researches of Pollender in 1855 and Davine in 1863 belong the credit of the discovery of the B. anthracis, the positive and only direct factor in the production of the disease. It has been said by good authority, that the discovery of, and experiments with, the B. anthracis has resulted in contributing more to our knowledge of bacteriology in general than work upon any of the other infectious diseases.

The B. anthracis is a non-motile minute rod-shaped body, ranging in length from 2 to 3 up to 40 or 50 microns, and presenting the appearance when stained of a strand of beads.

In persons or animals suffering from this disease, the bacillus may be found in the pustules, blood, urine, feces and tissues, especially the spleen, liver and lungs. When taken from these sources it can be developed in pure culture, which, if some other susceptible animal be inoculated will produce identically the same condition as that found in the animal from which it was taken. When taken direct from the pustules or from any part of the animal suffering from the disease, it is in the form of short rods and square at the ends, the diameter being greater and the length shorter than the pure culture cultivated artificially. If cultivated artificially, as it can be on any of the ordinary culture media in eighteen to twenty-four hours at the temperature of the body which is most favorable for its rapid development, the short rods develop into long threads and remain in this condition until a change in surroundings occur, the most important being a diminution in the nutritive supply which favors the production of spores.

Abbott says that spores will not form in a temperature under 12 C., or above 43 C. Spores do not form within the body of living animals, but spores introduced into living animals produce the disease. These spores are capable of resisting very deleterious influences. Esmarch says, spores from some sources can be killed by exposure to steam one minute, while others resist the same temperature for twelve minutes. These spores have been seen to continue in the living though inactive condition for long intervals and retain their virulent qualities.

Billings says that in 1876 he inoculated a piece of silk ligature with the anthrax spores and placed it in a bottle which was subjected to no other changes than those in the room in which it was kept. At various times during the seventeen years that followed, he cut bits of the ligature and placed it under the skin of a rabbit, and in every instance was the disease anthrax produced in typical form and the animals died, the last being in 1893 with similar results. He also cites another instance, in which he claims a horse became infected from having worn a harness made from the skin of an animal that died with anthrax.

Within the past ten days I examined a culture of anthrax developed from a tube in which I had inoculated direct from a patient Oct. 22, 1897. The tube of agar-agar from which the culture was made had remained in my office all this time, 3½ years, and for the past 18 months had been concealed in an air-tight box. The contents of the tube had so dried up that it was a mere thin shell and a piece of this placed in a fresh tube gave an excellent culture in twenty-four hours.

As to its virulency at the present time I can not say as I did not inoculate any animal, but a culture from the same tube in November, 1897, when tested by Professor Kramer, proved sufficiently virulent to kill a mouse in about twenty-four hours.

As to the formation of toxins there are some differences of opinion. Most bacteriologists claim the bacillus of anthrax generates toxins, while Conradi[1] says we have no evidence to prove the general assumption that the bacillus of anthrax generates a toxin. On the contrary everything tends to indicate that the anthrax bacillus is a typical infectious micro-organism. As to the etiology there is but one direct factor and that is the bacillus of anthrax, which is introduced into the person or animal, either from some other person or animal suffering from it, or who resided in an anthrax center, or from some of the earth, vegetation or water from one of these centers, which simply means localities where the bacillus is found in the earth.

Cattle and horses nearly always contract the disease while grazing over these localities, or in drinking water found in cess pools or near them.

The conditions which seem most favorable for their development in the earth are, 1, presence of the bacillus of anthrax; 2, a rich black loamy soil with sufficient moisture and high temperature; 3, profuse vegetation and rapid decay of same.

The season of the year most favorable for the development of the bacillus in the soil is from about the middle of July to the middle of October. In seasons in which prolonged drouth and high temperature have been preceded by much rain and luxuriant vegetation.

These centers are most frequently found in the torrid zones, less frequently in the temperate zones, and occa-

* Read before the Alumni Association of the Cincinnati College of Medicine and Surgery, May 1, 1901.

1. THE JOURNAL A. M. A., Sept. 23, 1899.

sionally found in the frigid. It has been shown to exist in Siberia and Lapland. In our own country, as far as is known, there are four well-established centers in Canada, namely, Guelph, Acton, Listowell and Kingston.[2]

Within the United States it has been found in Massachusetts, Pennsylvania, Virginia, Maryland, Michigan, and most of the states lying in the Mississippi valley; also California had an outbreak some two years ago which resulted in the loss of many cattle. In Ohio no doubt there have been various cases, but I have not been able to find any account in medical literature of any case, except the one which came under my observation and treatment about three and a half years ago.

From all the inquiry and investigation of the same community from which this case came there is nothing to show that there had ever been any disease in any person similar, but there is a history of some form of infection in the horse from which this patient became infected. The symptoms of the horse were extensive edema of head and part of the neck, and a profuse purulent discharge from the nostrils, mouth and eyes, which lasted

Fig. 1.—One hundred and twenty hours after inoculation.

nearly two months and ended in recovery. No examination either by veterinarian or physician had been made of this animal, but from the similarity of the symptoms and the fact that the patient contracted the disease by being switched in the face by the same horse, shows strong suspicions that the affection of the horse was anthrax.

SUSCEPTIBILITY AND IMMUNITY.

The susceptibility of the mammalia to anthrax may be expressed in the following order: herbivora, omnivora, and carnivora. This is largely due to the manner of obtaining food and modified much by the kind of food and locality from which it is obtained. Mice, guinea-pigs, and rabbits are most highly susceptible, and the ones used for experiments.

An injection of virulent anthrax in any of these animals will produce death in twenty-four to forty-eight hours. In man, while not the most susceptible, nor by any means immune, when fatal results do come, it is usually within ten days from time of inoculation. Patients passing beyond this time usually recover, but rather slowly, on account of the loss of tissue from sloughing and gangrene.

2. Dr. W. T. Connell, in THE JOURNAL A. M. A., Dec. 9, 1899.

A patient is not rendered immune by one attack and is just as liable to a second or third attack as the first.

Invasion.—There are three common avenues for the introduction of the poison: 1, through abrasions of the cutis, or wounds of any kind; 2, digestive tract; 3, respiratory tract.

Incubation.—The period of incubation in animals as in man is from a few hours to several days. This is modified by the amount of bacilli introduced, by the degree of their virulency, and the rank held by the person or animal in regard to susceptibility or immunity.

Clinical History.—Two leading clinical types are distinguished, namely external and internal. A clinical report of the two following cases will fairly illustrate the symptoms and conditions of both varieties, though

Fig. 2.—Eighteenth Day.

both were inoculated externally; one in the right eye, the other in the left, and both cases showing marked external edema in about the same degree.

The case in which but few internal symptoms developed showed more severe external symptoms and recovered, while the case with the most marked internal symptoms resulted fatally on the fifth day after inoculation, which is shown in the report of the following case, also reported elsewhere.[3]

C. B., aged 59, a native of Germany, and laborer in a hair factory, came to the Johns Hopkins Hospital Dispensary on Saturday, May 11, 1895, complaining of the swelling of the lids of the right eye. His history was as follows:

Family History.—His father and one brother died of some lung trouble, the exact nature of which he does not know; one brother died of cancer of the liver. The family history is otherwise negative.

Present History.—Two days ago, while working with South American hair he scratched his right eye with his hand, as it was itching. The next morning he noticed that the eyelids

3. Johns Hopkins Bulletin, Sept.-Oct. No., 1895.

were slightly swollen, and itchy, and by this morning they were so swollen that he came to the dispensary.

At the time of the visit the swelling was confined to the lids of the right eye, and was fairly sharply localized; it was edematous in character, and quite boggy, the overlaying skin appearing almost of a natural color. Two small incisions were made, one into each lid, and a small quantity of rather thin, whitish fluid, resembling diluted milk was evacuated. Cultures upon agar-agar were made at this time, and two days later the tube inoculated showed a pure growth of an organism which resembled the bacillus anthracis, and which upon inoculation killed a mouse in twenty-four hours. Further tests proved it to be the anthrax bacillus.

The patient was admitted to the hospital on May 13, four days from the onset of the disease. The physician who attended him at his home, from Saturday until his admission on Monday, stated that his temperature had been subnormal during the entire period. On admission the patient complained of nothing but slight pain beneath the right side of the jaw; otherwise he felt perfectly comfortable. He had no headache or malaise. His mind was perfectly clear. The following note was made at this time:

Patient is in bed on his back. Temperature 102 F. Pulse 132 per minute, regular, volume fair, tension not increased. Respirations 16 per minute, easy. Tongue has a slight white coat. The mucous membranes are of a fair color, not cyanosed.

Both eyes are closed by edema. On the left side the swelling is not so nearly marked as on the right side, the lids being distended by a moderately firm, watery edema. The lids of the right eye are much swollen, hard and tense, and the overlaying skin is occupied by several vesicles, varying in size from a pea to a bean, and filled with clear, yellowish serum. The eyes themselves appear uninvolved. Over the whole of the right side of the face and neck, and extending up onto the scalp, is a marked edema of varying consistency; immediately around the right eye it is very hard, and covered by tense, shiny skin; over the forehead, neck and remainder of the face, as well as over the implicated scalp, it is much less firm, and can be easily pitted by pressure. The edema extends across the left side of the forehead, and occupies the neck as low down as the clavicle. On the side of the mouth the right cheek is marked with the imprints of teeth, and has a yellow-gray sloughy appearance.

May 14, 10 a. m. The patient is much worse this morning. He had several involuntary passages of urine and feces during the night. The mind is quite clear, and he answers questions rationally. He complains a good deal of cramp-like pains in the abdomen. The pains are situated in the umbilical region, and are sharp and constant, with occasional acute exacerbations, during which he has a desire to defecate. The abdomen is extremely sensitive to pressure this morning. The spleen can not be palpated. The pulse at the wrist is almost imperceptible and practically uncountable. The heart sounds are extremely distant and feeble. The temperature has been subnormal since 4 a. m. this morning and is now 97 F. The right eye is somewhat more swollen than it was yesterday, and the edema now occupies the whole of the scalp, and has spread down the right side of the chest to the level of the pectoral fold; it also occupies all the tissues overlying the upper part of the sternum.

The patient gradually sank, and died quietly at 4 p. m. on the 14th. Before death the edema had spread further over the left cheek, and had also extended somewhat further down the chest. The patient became very cyanotic before death. There was no respiratory distress at any time. His mind was perfectly clear to within fifteen minutes of his death. On the morning of the 14th he had three loose watery stools of grayish color, and apparently containing no blood. The urine was passed involuntarily, and could not be examined.

Autopsy, May 15, eighteen hours after death, the body in the meanwhile having been preserved on ice. Body 174 cm. long, moderately well nourished, strongly built. Rigor mortis in both extremities. The right eyelids are edematous, closing the eye; they are congested and glazed and the epidermis is peeling off. The whole right side of the face below the eye is edematous, and the edema extends over the head and neck. The left eye and left side of the face are less swollen. The edema is well marked anteriorly over the neck and clavicles, and can be well followed down the chest. On incising the skin, above the clavicles, much clear, serum-like fluid escapes. The edema extends beyond the median line to the left, and is immediately evident after incision, extending to the sternum. Subcutaneous fat is moderate in amount.

The peritoneal cavity contains turbid fluid; at least 2000 c.c. of such fluid is present in the cavity. The serosa is injected, its reflection lost, the vessels very hyperemic. Smaller and larger ecchymoses are seen beneath the serous membrane. In the smaller omentum, in the region of the pancreas, a large ecchymosis is seen.

In the pyloric region there is in the mucous membrane a large, deeply congested area, measuring 8x6 cm. in extent. It is not clear that there is a false membrane over it, but some grayish-yellow material adheres to the surface.

The duodenum is congested uniformly. Beginning in the jejunum, which is less congested, there occur at intervals small, elevated, deeply congested areas. They average 2 mm. in width and project 1 mm. above the surface of the intestines; they do not seem to correspond with the lymphatic follicles. The serosa over them is often the deeply congested, bulged out portion already described; this is, however, not exclusively the case. These foci are quite numerous in the jejunum, at least fifteen being present in this part of the gut alone. At times two or three were close together, though as a rule they were more separated. In the ileum they were also seen, in this situation perhaps a little more separated, but in all as many were present as in the jejunum. In connection with one of these areas in the ileum, what appeared to be a false membrane occurred. If a membrane, it was thin, and easily scraped away. Several of the nodules showed superficial ulceration. There was no relation detected to the lymphatic apparatus, and the nodes were less numerous near the ileo-cecal valve. The large intestine shows no such localized foci, only a diffuse congestion. Mesenteric glands were swollen, congested, hemorrhagic, and softened.

The second case is the one that came under my observation and treatment three and a half years ago.

Elmer C., aged 20, farmer of good habits, health and family history, came to me on Thursday, 7 a. m., October 21, 1897, with the following history:

On October 18, four days before, while working with a team of horses in the field he was standing directly behind them unloading the wagon. One of the horses switched him in the face, which caused quite a burning and itching sensation, about like the bite of an insect. This occurred about 11 a. m., and he continued to work the remainder of the day with no other symptoms than those of the burning and itching which were present at first.

October 19, edema of lower left eyelid with the appearance of small ecchymotic spot about three-fourths inch below center of eye. Patient worked all day, and by evening the eye was almost closed.

October 20, burning and itching same as first two days. Eye completely closed, pustules formed over lower lid. Edema had spread in all directions and slight discharge from the eye. At 4 p. m. patient applied for treatment to physician, who claimed to have removed a piece of glass from the eye which, if correct, had never produced any pain.

October 21, about 7 a. m., patient came to my office for treatment the first time. The left eye was completely closed, with marked edema of face and head, the left side being much worse than the right. The lids looked watery, and there was a profuse purulent discharge from the left eye resembling gonorrheic ophthalmia, and numerous pustules from one-eighth to one-half inch in diameter covering the lower lid and extending about two inches over the cheek. Some of the pustules had ruptured, and the base showing the slough had extended to the tissue beneath the skin. Temperature 101; pulse 96; respiration 20. No headache nor pain, but patient was restless. Patient grew worse all day, and the following morning, October 22, I saw him at his home. By this time the swelling had spread over the entire face and scalp and as low as the clavicle, and was sufficient to produce difficult and labored breathing. Temperature 102; pulse 102; respirations

25. Tongue heavily coated, breath fetid, no appetite and very restless. Had slept but very little during the night. The discharge from the eye and sloughing areas was very profuse. At this time I prepared two slides, one from the fluid of a pustule and one from the pus discharging from the eye. Upon microscopical examination, both slides showed the short, thick rods of bacillus anthracis. In the evening of the same day I inoculated a tube of agar-agar, and after eighteen hours, examination showed the presence of bacillus of anthrax in large numbers, and upon this I based and made my diagnosis of anthrax.

October 23, edema increasing. Both eyes completely closed; discharge greater; pustules still forming, and could now be seen in all the stages, a very interesting condition to observe. The mucous surface of the left side of the mouth was covered with a grayish-white membrane resembling diphtheria and the surface would bleed freely when this was removed. Temperature 102.5; pulse 120; respirations 28, deep and labored. Very restless, some dyspnea and vertigo on rising. Could speak but little louder than whisper. Could not take any nourishment on account of swelling of mouth and throat. Photograph No. 1 shows condition of this day.

October 24, condition same as preceding day, except breathing was heavier and edema still increasing.

October 25, conditions same as before, except the swelling of the right eye was reduced sufficient to permit it to open slightly, but the edema had spread over the entire chest as low as the apex of the heart, and presented a bright red appearance resembling the rash of "iodism." Slight pain also developed in the bowels, which lasted for thirty-six hours. This was the only pain experienced during the course of the disease.

October 26, edema decreasing, discharge about same. Temperature 100; pulse 100, respirations 22. Voice better. Can take small amount of diet, and getting some natural sleep. Within the next twenty-four hours temperature went to normal, and never rose above 99, and improvement continued until patient was in good health.

On the tenth day a line of demarcation formed as shown in photograph No. 2. Within this line everything was gangrenous, except the eyeball and the deeper portion of the eyelids.

The sight of the eye was at no time affected, although the eyeball was highly congested. The gangrene destroyed all the soft tissue over the cheek, to the periosteum, and all the muscles about the eyes that control the lids.

Dr. Stuber, of Lima, Ohio, directed and treated the eye and has made three plastic operations, hoping to restore better functions of the eyelids, but the results have not been satisfactory.

Treatment.—Having no experience in any way with this affection and finding but little literature on the subject that seemed to meet the symptoms present, a line of symptomatic treatment was adopted, which consisted of quinin, whisky, diuretics and cathartics, internally and externally, local application of bichlorid cloths to all parts that were sloughing, boracic acid salve to the eye, after thoroughly cleansing all the discharge from the eye with hot boracic acid solution.

On the eighth day after inoculation I found an article by Vockresensy,[4] in which he highly eulogizes the use of large doses of carbolic acid internally, claiming to have cured sixteen consecutive cases of malignant pustule, and in some it was not begun until the seventh day.

In my case it was not used until the eighth day; within twenty-four hours from the time of commencing it improvement was noticeable, and it was continued until all symptoms of sepsis had disappeared. Whether the favorable result was due to use of the carbolic acid, I do not know, but should I get another case I would begin it promptly.

4. Annual of the Universal Med. Sciences, 1891, vol. iii.

The main points of interest are: 1. Does this one case prove that an anthrax center exists on this farm, the home of the horse and patient? 2. Did the horse really have an anthrax at the time he was suffering from the swelling and discharge from the head? 3. The difference in the symptoms and results of the two cases reported when the points of inoculation were so nearly the same. The virulency in either case proved to be sufficient to produce death in mice in twenty-four hours.

INTERESTING THROAT PARALYSES IN A CASE OF LOCOMOTOR ATAXIA OF AN IRREGULAR FORM.*

JOHN EDWIN RHODES, A.M., M.D.
CHICAGO.

Mr. F. D. R., aged 35, railroad employe, was sent to me Jan. 26, 1901. About four days previous to his visit he began to cough occasionally and had at that time noticed some difficulty in articulation, especially in the liquid sounds, *t* and *d*; the labials *m* and *n* were pronounced easily. At this time there was noticed occasional though slight regurgitation of liquids into the nasal cavity on swallowing. He gave a history of rheumatic pains in the shoulder some four or five years ago, but had had none recently.

He confessed to an attack of gonorrhea, but had never had syphilis, nor were there any general symptoms indicating such an attack. His habits were good; he did not use alcoholics, and used very little tobacco. His sense of hearing was good; the sense of smell was considerably impaired; vision in the right eye was poor.

There were no pains at this time from which he suffered, but he had had sharp lancinating pains in the lower extremities at one time for several years. His normal weight was 150 pounds, but now he weighed only 135 pounds. His strength was fairly good; the temperature and pulse were normal. There was no dyspnea, vertigo, or headache.

He complained of a slight tickling sensation in the larynx, which excited cough occasionally. The tongue was slightly coated, the appetite fair, the digestion good, but he was habitually constipated. Micturition was frequent and could not be controlled very well.

Dr. C. D. Wescott, who sent him to me, reported upon his case as follows: "In regard to the case of F. D. R., I would say that he was referred to us last May, by Dr. Patrick. He came with the diagnosis of locomotor ataxia, and was sent to us because of a drooping of the upper lid of the right eye and a divergence of the same eye. He was also complaining of pains in the eyes and head. He said that the eye first turned out two years before and had not been straight since. Upon examination, it was found that there was complete paralysis of the branches of the third nerve of the right side. The ophthalmoscope showed some opacities in the vitreous in the right eye and the retinal vessels were full and hazy in outline. The optic nerves appeared normal in both eyes. We prescribed glasses which gave him great relief in the use of his eyes for near work; and, about the middle of June, he reported himself decidedly better. There was noticeably less ptosis and slight movement of the right eye in was possible. We then lost sight of him, and he did not return until we sent him to you on January 26 complaining of his throat. On that day there was almost com-

* Read before the Chicago Laryngological and Climatological Society, May 2, 1901. (See Proceedings, p. 1801.)

plete ptosis of the right upper lid, as well as divergence of the eye. His vision was not quite as good as it was at the time of our examination in May; the optic nerve was gray, possibly indicating beginning primary atrophy.

I asked Dr. Patrick as to his condition in May and he reported to me as follows: "I first saw F. D. R. on May 3, 1900, and found him suffering from rather atypical tabes. The right pupil was dilated and had been so for two years. Occasionally the left eye would swing outward, giving him double vision. He had well-marked incoördination, diminished knee jerks, the left more so than the right. I regret to say that my record makes no mention of the pupillary reactions, but I feel quite sure that they were not normal. I could get no history or other evidence of specific infection."

Dr. Gill had seen the patient previously and reported as follows: "F. D. R. called to see me about two years ago; he told me he had been suffering from sharp lancinating pains in the lower extremities for several years. An examination of his condition at that time showed exaggerated patellar tendon reflexes; ptosis of the right lid with sluggishness of both pupils to the light. There was no incoördination, and no ataxia. The last examination, which occurred several weeks ago, showed a change in some of the symptoms, inasmuch as the reflexes had disappeared entirely. The lancinating pains had persisted, but still there was no ataxia or incoördination. He has difficulty in urinating, an inability to completely empty the bladder, also inability to control the sphincter ani at all times. There were some areas of anesthesia about the chest. His trouble is probably an irregular form of locomotor ataxia."

I found the nasal cavities comparatively normal. When the mouth was opened, and the tongue depressed for an examination of the throat the soft palate was in a normal position. On irritating it with a probe, however, the right side of the palate was contracted strongly to the pharyngeal wall, drawing the uvula toward the right, the left side of the palate not responding at all to the irritation, but remaining relaxed and stationary. There was no anesthesia of the parts.

On examination of the larynx the right vocal cord was stationary in the median line, there being a paralysis of the posterior crico-arytenoid on the right side—the abductor of the vocal cord. All other conditions of the throat were normal.

The diagnosis then was, an ascending sclerosis of a locomotor ataxia causing ptosis of the right eyelid, and divergent squint of the right eye, paralysis of the left half of the palate, and abductor paralysis of the right vocal cord.

The motor nerves affected were interesting. The palate derives its motor stimulus from the otic ganglion of the fifth, supplying the tensor palati; the facial supplying the levator palati and azygos uvulæ. The recurrent laryngeal supplies the posterior crico-arytenoid; the third supplies the levator palpebræ, and the sixth, the external rectus of the eye.

The diagnosis should not be difficult. The throat conditions might be confounded with those found in the acute form of bulbar paralysis, but the rapidly progressive nature of this disease with its symptoms would enable one to easily exclude it. In this case the history, with the symptoms and signs of ataxia, although not altogether typical, satisfactorily settled the diagnosis as due to a progressive and upward sclerosis, involving finally these nerves at their origin in the bulb.

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THE DIAGNOSIS OF DIAPHRAGMATIC HERNIA.*

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The diagnosis of diaphragmatic hernia presents many difficulties in the living subject; so great indeed are these that the condition is seldom recognized until operation or death has yielded an ocular demonstration. The affection is found in rare cases at autopsies and it is occasionally discovered in the dissecting room in bodies dead of other affections, but all told only a little over 300 cases have been reported. H. I. Bowditch reported a case in 1847 and at that time collected reports of 88 cases. Leichtenstern[1] reported a case in 1874 and at that time collected reports of 250, but only five of these were diagnosticated before death. Thoma[2] collected 290 cases in 1882 and many more have since been reported, but still the obstacles to diagnosis remain, although as shown by Leichtenstern, and by Abel[3] in 1894, there are some cases in which a reasonably positive diagnosis may be made without great difficulty. As I have elsewhere stated[4] : "This affection possesses many symptoms and signs in common with pneumothorax, like which it causes distention of one side, displacement of the heart, diminished motion, tympanitic resonance and feeble or suppressed respiration with metallic tinkling." The history will often be of the greatest aid in reaching an accurate conclusion. In the cases collected by Bowditch, 26 were congenital and the rest traumatic. The principal symptoms noted were dyspnea on exertion and sometimes on lying down; pain in the bowels, especially after a full meal, in those where the opening through the diaphragm was small, and vomiting in several cases where the stomach was wholly or in part within the chest. In most of the cases the pulse was disturbed and in a few it was weak and rapid. In 27 per cent. of these cases the patients were in good health and engaged in active business.

In Abel's case the symptoms, which came on suddenly, were those of obstruction of the bowel, with vomiting, profound collapse, retraction of the abdomen and distention of the left side. He based his diagnosis upon the retraction of the abdomen, distention of the left side with tympanitic resonance and displacement of the heart to the right, with the collapse, and absence of any passages either of gas or feces from the bowels. In his case it was impossible to introduce a stomach tube through the cardiac orifice; therefore this organ could not be irrigated. In Leichtenstern's case he was able to demonstrate the presence of stomach and intestines in the pleural cavity and to note changes in them from the introduction of water and air. This patient complained of dyspnea on exercise, but worse during eating. There was slight cyanosis of lips, increased respiratory frequency and almost an absence of heart dulness. Percussion and auscultation over front of thorax yielded normal signs. Heart sounds muffled and loudest at lower end of sternum. Abdomen flattened. Posterior part of thorax: slight loss of motion and prominence below the left shoulder blade. Percussion and auscultation normal to lower angle of left scapula. Below this a hollow, deep, tympanitic note. In this region absence of vesicular breathing; instead

*Read before the Chicago Laryngological and Climatological Association, May 2, 1901. (See Proceedings, p. 1801.)

1. Leichtenstern: Berliner Klin. Wochenschrift, 1874, p. 497.
2. Thoma: Virchow's Archiv, vol. lxxxviii, p. 515.
3. Abel: Berliner Klin. Wochenschrift, 1894, p. 84.
4. Dis. of Chest, Throat and Nose, 1900, 4th Ed., p. 88.

of this, high-pitched metallic inspiration and expiration, transmitted from the bronchial tubes, the inspiration loudest. Metallic tinkling and succussion sounds part of the time. The exact extent of area of metallic resonance and breath sounds was determined by auscultatory percussion. The borders where the metallic notes ceased abruptly varied considerably at different examinations. At times over the lower part of the chest the metallic breathing and quality of the percussion note would disappear entirely and the resonance would merely appear exaggerated; at other times it would occupy a larger area and invade the axillary region and even send a tongue-like projection to the left border of the sternum. During percussion the pitch would run up and down the scale from deep to high notes, or the reverse. He believed this the result of peristalsis and emptying of the stomach or colon or filling of same with gas. At times percussion produced notes of varying pitch at different parts of the affected area, indicating more than one cavity. At the lower part of the left and back of the thorax, dulness would be noted at times. The border of this would change with changes in position of patient. (Contents of stomach.) He based his diagnosis on the following points: Percussion showed in the lower left side of thorax behind a hollow cavity that applied itself to the chest wall in a changeable area. It changes its position, shape and volume in a very short time. The circumstance that at times metallic resonance was absent in the affected area while there was also absence of fremitus and vesicular breathing at all times over the area, showed that the cavity persisted but the metallic resonance was lost because of filling of the cavity with contents or because of its contraction. When this contraction occurred the lung tissue and vesicular breathing encroached on the area of the cavity, the lung expanding and following it up. The shifting of the upper border of the area of dulness showed that the cavity contained at times movable contents, and the size of this area indicated the presence of the stomach. The different pitch of certain areas of metallic percussion that at times were separated from each other by areas of dulness was explained by the presence of more than one cavity. (Small intestine, colon, stomach.) The breath sounds over the area were either metallic or often absent. The respiratory sounds he thought were changed in quality and acquired a metallic character by transmission through smooth-walled cavities. The pitch of the metallic breathing was decidedly less intense than that heard in the pneumothorax, because the sound was not transmitted through the pleural cavity alone, but also through the gastric and intestinal walls. At times the metallic breathing was heard only with inspiration, whereas, in pneumothorax, on account of greater compression of the lung, the expiratory sound is the loudest. In addition, gurgling, either simple or metallic in quality, was heard, also the metallic tinkling and splashing sounds, with bursting bubbles trickling and pouring sounds, such as are heard in diarrheas, or ecstasis of the stomach. These sounds were at times very frequent, at other times absent. Leichtenstern argued that where similar sounds are heard in the normal thorax in the axillary and infrascapular regions if the stethoscope is applied to the stomach or intestines it can be readily shown that these sounds are far more intense in the normal situation of these organs, whereas in diaphragmatic hernia the dislocation of the intestines or stomach encourages the formation of peristaltic sounds through the place of communication of thorax and abdomen, and these sounds are louder by far in the thorax than they are when listened for over the abdomen. After old pleurisy with high location of the diaphragm the stomach and intestines can occupy a high situation, but here we have a retracted and not distended thorax, with scoliosis, etc. Succussion sounds in this case showed the variable character belonging to all the other signs. When they were present they were deep, showing a large cavity. (Stomach.)

Almost all reported cases of diaphragmatic hernia show great variability in the signs.

Pneumothorax, the affection with which diaphragmatic hernia is likely to be confounded, results from pulmonary tuberculosis in 90 per cent. of all cases and in probably all of these is speedily followed by effusion of serum or pus into the pleural sac. The affection develops without the history of an injury. In the remaining 10 per cent. nearly all result from traumatism, and in most of these inflammation of the pleura speedily follows with effusion of fluid, though in a very few there may be no infection and the air may be absorbed without causing any effusion. In pneumothorax dyspnea may come on suddenly or gradually and we may often hear amphoric respiration, especially in expiration, which may be either intense or feeble and which disappears when fluid rises high enough to cover the opening into the air passages. When fluid and air are present in the pleural cavity we may often hear metallic tinkling during the respiratory acts and we may obtain distinct splashing sounds by shaking the patient's body while the ear is applied to the chest. The heart is constantly crowded to the opposite side, where it remains without variation. Diaphragmatic hernia is congenital or occurs through congenital defects in about 38 per cent. of the cases that have been recorded and in many of these it does not cause marked symptoms unless the hernia becomes strangulated. In about 60 per cent. of cases the affection is traumatic and therefore the history is quite different from that of pneumothorax. The dyspnea in hernia may come on suddenly and as suddenly subside, whereas, that of pneumothorax is more continuous. I have elsewhere stated that there is no amphoric respiration in diaphragmatic hernia, but the reverse of this is maintained by others. I can not understand how typical amphoric respiration could be produced in diaphragmatic hernia, although I know that similar though more distant sounds, especially on inspiration, are sometimes heard. These, I believe, are caused by the transmission of the bronchial sounds through the intestines or stomach, some parts of which are distended by gas. The most important factors in the differentiation of non-strangulated cases are the following:

1. The metallic tinkling in pneumo-hydrothorax and a similar sound, though different in quality, may be heard at times in diaphragmatic hernia. The quality of the sounds produced in the bowels and in the pleural cavity would often be sufficient to differentiate between them, but this quality can not be accurately described; therefore the principal value of the sign depends upon the fact that in pneumo-hydrothorax it is heard only with respiratory movements or upon shaking the body, while with the hernia it occurs independently of these movements and is associated with rumbling or gurgling of gas in the stomach or bowels which have escaped into the pleura.

2. The displacement of the heart, which in pneumothorax remains practically constant, in diaphragmatic hernia may vary with the varying contents of the stomach or bowels, as when the patient is fasting or soon after eating or drinking freely. The retraction of the

abdomen may prove of some value as a sign, and the symptoms of obstruction will be of the utmost importance if strangulation occurs. In a case saved by operation that was recently reported by E. W. Walker,[5] there was the history of a severe injury, with symptoms of intestinal obstruction and "diminished expansion of the left side of the chest, tympanitic resonance at the base of the left lung, amphoric breathing, succussion sound on shaking the patient and the apex of the heart was displaced two inches to the right." In this case there had been a fracture of two ribs and the patient had some pain in the left side, which leads one to suspect a rupture of the lung with pneumothorax, in addition to the knuckle of bowel (involving 8 inches of the gut) which was firmly held in the rent in the diaphragm. Walker cites numerous authors and states that among the symptoms named, dyspnea, intense pain, and cough are the most prominent, and that tympanitic resonance over the prolapsed gut, amphoric tinkling and sometimes succussion sounds are present.

The symptoms and signs must necessarily vary greatly according to the cause, the nature of the injury, when traumatic, and the condition of the organs protruding from the abdominal cavity. Larcher found that in about 91 per cent. of 275 cases no hernial sac existed. The signs would doubtless vary considerably in the cases in which the intestines protruded freely into the pleural cavity and in those where they were held down by the overlying pleura.

An interesting case has recently come under my observation that I believe to be a diaphragmatic hernia, but several skilled diagnosticians look upon it as a case of pneumothorax. The question has not yet been settled, but in view of the symptoms and signs I think the members of this society will be interested in each making a diagnosis for himself. The case is as follows:

A gentleman 29 years of age came to me Dec. 31, 1900, with the following history. Ten days previously, while walking on the street in the most vigorous health, he was occasionally taking very deep inspirations as was his habit, for the mere satisfaction of filling the lungs. Suddenly there was a pain and something seemed to give way in the lower outer part of the left inframammary region. He became faint and had to sit down for some minutes, but partially recovering he walked on a couple of blocks to a friend's office, where he sat down again. He became so faint and short of breath that he was obliged to be taken home. He felt better the following day and was on the street soon again, though he had an uncomfortable feeling in the left side and occasionally had mild attacks of dyspnea and faintness. He also noticed frequent splashing sounds or sensations referred to the left inframammary region. About a week after the first attack, as the result of climbing the stairs of an elevated railway station, he had a distressing attack of dyspnea and faintness. He rode on down town but felt so badly that he immediately returned home. He consulted Dr. William M. Harsha, and a day or two later came to see me. He had the appearance of perfect health and complained of nothing excepting slight discomfort in the left side and some shortness of breath. About ten years before he had a bad cough for two or three months while an attendant at a hospital, but he recovered immediately on leaving the institution and he had been in perfect health ever since. There was no hereditary tendency to any disease. There had been no increase of temperature since the accident; indeed, the temperature and pulse had been slightly subnormal most of the time. No cough or expectoration. Appetite good and digestion normal. He had just eaten a hearty supper before calling on me, which apparently modified some of the physical findings. Abdomen somewhat retracted with marked transverse furrow across the upper part of the umbilical region about on level with end of tenth ribs. Chest normal form, but movements of left side much diminished. Apex beat of heart about 2 inches to right of normal. Spleen and liver could not be detected below the border of the ribs. Percussion and auscultation yielded normal signs over right side. Left side hyperresonant in front, excepting moderate dulness below fourth rib extending about 2 inches to left of mammillary line and downward to near border of ribs. Posteriorly and laterally hyperresonance over upper two-thirds of left side with tympanitic resonance below. Right border of heart extends one inch to right of sternum on line of fourth rib. Respiratory murmur at left apex about four-fifths as intense as on right side extending down to third interspace in front and to seventh or eighth rib behind. Below this, no respiratory sounds, but instead I heard several times, rumbling and gurgling exactly like that commonly heard over the bowels. Occasionally I heard short metallic sounds which might be termed metallic tinkling, such as may often be heard over the bowels when a patient is flatulent. These were not very much like the metallic tinkling I have often heard in pneumo-hydrothorax, probably on account of being produced in small cavities with elastic walls. I heard nothing resembling amphoric respiration and there was no succussion sound. I made a tentative diagnosis of diaphragmatic hernia and planned to see the patient at his home the following day with Drs. Christian Fenger and William M. Harsha. We called about 5 p. m., the patient having eaten nothing since a very light luncheon 4 or 5 hours previously. The signs were the same as on the previous evening excepting that the apex of the heart was crowded only about three-fifths as far to the right. The dulness to the left of the heart was less distinct, the respiratory sounds in front extended about an inch lower and behind two or three inches lower than the preceding evening and the gurgling sounds were heard much less frequently. I understood Dr. Fenger that he heard something like amphoric respiration over the lower part of the lung posteriorly but it did not occur while I was listening. Dr. Harsha was inclined to think the case one of pneumothorax; Dr. Fenger was noncommittal. I felt more confidence than before in my diagnosis. We advised the patient to go to the Presbyterian Hospital, hoping to establish the diagnosis and if necessary operate for relief. In the hospital Dr. Fenger explored the lower part of the left chest twice with a long aspirating needle, the first time with negative results. The next time there was some escape of air sufficient to blow out a match. This had no odor and the needle contained no cells or fluid that yielded anything to microscopic examination. The patient was given bismuth and examined by the *x*-ray, but with negative results. His stomach was filled with air and the colon with water and from percussion appeared to be in normal position. While in the hospital he was examined by Drs. Billings, Senn, Rhodes, Corwin, Herrick, Dolamore, Freer, Sippy, Torrison, Stevenson and others (about thirty in all), some of whom favored the diagnosis of pneumothorax and others agreed with me. I examined the patient several times during the next few weeks, hearing the intestinal sounds often and sometimes the long drawn out gurgle from rushing of air or fluid through a constricted portion. On one occasion I heard something resembling a faint but very distant amphoric inspiratory murmur, which I think must have been the same as the metallic breath sound from the bronchial tubes referred to by Leichtenstern. The position of the heart and the lower line of respiratory murmur varied somewhat from time to time, but otherwise there were no changes in the physical signs or in the patient's general condition. The diagnosis of diaphragmatic hernia appeared to me more and more probable with each examination, until finally, on account of the patient's anxiety to be through with the trouble, I felt justified in recommending an exploratory operation below the diaphragm, providing Prof. Fenger should concur. The patient himself, though favoring the operation, has thus far been unable to decide on account of the conflicting views as to the diagnosis. I examined this patient again February 13. He told me that about three days previously, after laughing, he could hear air rushing into some cavity below the left inframammary region. I found the left side more tympanitic than ever before; the impulse of the heart crowded

5. Walker: International Jour. of Surg., Sept., 1900, p. 257.

two inches to the right of the sternum; the respiratory sounds over the left apex extended down to about the fourth rib but were less distinct than previously and on a level with the inferior angle of the scapula on the left side posteriorly and laterally, amphoric sounds were constantly heard on inspiration though they lacked the amphoric echo and the nearness to the ear that are present in ordinary cases of pneumothorax. The gurgling and borborygmi could not be detected at this time. The left side measured 17¼ inches and the right 17. The movements of the left side were practically nil; the abdomen was somewhat retracted and the spleen could not be detected below the border of the ribs. A week later there was no material change in the physical signs. I examined the patient carefully Feb. 27, nearly ten weeks after the accident. During the whole time there has been no increase in temperature or pulse rate, excepting the slight change already mentioned which was present a day or two after one of the exploratory aspirations and which was attributed to a sore throat. At the last examination the contour of the chest was normal, with the retraction instead of prominence of the intercostal spaces on the lateral aspect of the left side. The abdomen was considerably retracted; the heart sounds were feeble when the patient lay upon his back, but the organ had returned two and a half inches nearer its normal position than it was two weeks previously. When the patient lay upon the right side the heart sounds and impulse were of normal intensity over the lower portion of the sternum to the left of the median line. The vesicular murmur could be heard over a larger area at the upper part of the left chest than at the last examination and was of about one-third its normal intensity. I was unable to hear anything resembling amphoric respiration, but whisper resonance was distinct though feeble over the lower half of the left side. There was a small area of moderate dulness about two inches in diameter at the upper anterior corner of the infra-axillary region, which appeared to me due to the contents of the hernia, but aside from this the lower part of the left side was moderately tympanitic and the upper part presented nearly normal though slightly exaggerated resonance. I heard no metallic tinkling or borborygmi, but the patient called my attention to an interesting sign which I heard repeatedly as he swallowed a little water. This was the normal though somewhat intensified liquid sound from the esophagus which could be heard only at the lower part of the esophagus below the level of the fourth rib. It could be heard in front and laterally though most distinctly in the latter position. This sound occurred as the bolus of water passed through the lower portion of the esophagus; it was followed by a silence of about ten seconds and then came another considerably louder and more prolonged gurgling sound which could be heard distinctly over the epigastrium and as high as the fourth rib. The first of these sounds I think was produced by the passage of the water through the lower portion of the esophagus into the stomach and the second by passage of a part from the portion of the stomach that remains in the abdominal cavity to that portion that forms a part of the diaphragmatic hernia. This patient has never had any history of stricture of the esophagus, so there is no reason for suspecting that the liquid remains for ten seconds in a pouch at its lower part before it passes into the stomach; indeed, if it were from this cause the second sound would begin immediately after the first and would continue until the liquid had drained into the stomach. It seems quite reasonable to suppose that it might require ten seconds before the movements of the stomach would force the liquid which had been taken in through the constriction into the hernia. These sounds could be produced at will every time the patient took a small swallow of water.

The points in favor of the different diagnoses in this case are shown in the following table:

PNEUMO-HYDROTHORAX. HISTORY.	DIAPHRAGMATIC HERNIA. HISTORY.
1. Ninety per cent. follow tuberculosis, most of the remainder traumatic. *Absent in this case.*	1. About 27 per cent. congenital or due to congenital defects. The remainder traumatic. Absence of usual causes of pneumothorax.
2. Usually sharp pain in side, followed by depression and symptoms of hydro-pneumothorax. *Absent.*	2. Usually but little pain and not very prominent signs in congenital cases unless they become strangulated.
3. Usually feeble, rapid pulse and persistent temperature. *Absent.*	3. Pulse and temperature never above normal excepting slightly for a few hours after the first aspiration, at which time he had some sore throat.
4. Abdomen usually distended, but may be normal.	4. Abdomen retracted.
5. Restricted movements and hyperresonance on left side.	5. Restricted movements and hyperresonance at upper part of left side. Variable tympanitic resonance over lower part. In pneumothorax tympanitic resonance should be most marked at apex, unless prevented by old pleuritic adhesions. No history of pleurisy at any time in this patient's life.
6. Commonly succussion sound or flatness, showing fluid in pleural sac. *Absent.* Very rare cases have little or no fluid.	6. No succussion sound or flatness, though presence of gurgling, and splashing sensations noticed by patient extending four or five inches above diaphragm, showing presence of fluid in smaller cavity than the pleural sac.
7. Displacement of heart to right, constant while air remains, but gradually disappears as air is absorbed.	7. Displacement of heart to right varying from time to time according to the contents of stomach and bowels from one to five inches to right of normal.
8. Spleen in left-sided pneumothorax crowded downward. *Absent.*	8. Spleen not crowded downward.
9. Feeble or absent vesicular murmur.	9. Feeble vesicular murmur over upper part of chest, but at some examinations the murmur was three-fourths as loud as on the right side over an area varying at different examinations from two-fifths to three-fifths of the left side. The area over which it cannot be heard varies under the same conditions. Absence of vesicular murmur below.
10. Amphoric respiration in many cases depending on whether opening into pleura from lung remains patent.	10. Amphoric respiration, though lacking the echo that is usually present in the pleural cavity, present occasionally only, in this case and heard only over the lower part of the chest and that in inspiration only. In pneumothorax it is usually heard best in expiration and appears near the ear instead of distant as in this case. Gurgling and borborygmi as high as the fourth rib, from bowels, and louder than below the diaphragm. Sometimes long drawn out sounds from fluid or air passing through constriction. Although intestinal sounds may sometimes be heard above the normal position, it is doubtful whether they could ever be heard distinctly as high as the fourth rib, unless the diaphragm were crowded far upward, as after an old pleurisy. In pneumothorax the diaphragm would be pushed downward.
11. So-called metallic tinkling, but it could not have been produced in the pleural cavity, because it contained no fluid.	11. So-called metallic tinkling, but of quite a different quality from that heard in pleura; quality exactly like sounds often heard over abdomen. Produced independently of respiratory movements or shaking the body. There was no fluid in the pleural sac, therefore metallic tinkling could not have been produced by pneumothorax in this case.
12. Dyspnea.	12. Dyspnea should be permanent in pneumothorax; it was intermittent in this case.
13. Aspiration. Obtained air only. No odor.	13. Aspiration. No fluid either from pleural cavity or intestines. No odor from intestines. This, like the absence of bacilli from sputum, is not a positive sign.

In this case the symptoms and signs noted in 5, 7, 9, 10, 11 and 13, taken without modifying conditions would certainly indicate pneumothorax; but the conditions in some of these seem to make them weigh more for diaphragmatic hernia, and all of the other seven propositions certainly make strongly for the latter diagnosis.

J. B. Murphy states that when deflating the lung by air in the pleural sac the air must be introduced about every third day. It is improbable that confined air could remain in the pleural sac for this length of time. Clinical experience has shown that in nearly all cases en-

trance of air from the air passages to the pleural sac is speedily followed by effusion. It is extremely improbable that a communication of the pleural sac with the air passages could exist for this length of time without causing pleuritis.

The diagnosis in this case seems to me nearly certain; the prognosis very doubtful, and the treatment problematical. The fact that 27 per cent. of the cases reported by Bowditch were in good health strongly favors doing nothing; but the comparative safety of an operation under modern precautions and by such surgeons as we have at hand seems to justify the attempt to prevent possible strangulation.

The patient left the hospital a few days after the last examination and I have not seen him since, though I have heard that he is doing very well.

THE VALUE OF CALCIUM CARBID IN THE TREATMENT OF INOPERABLE CARCINOMA OF THE UTERUS.*

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The treatment of carcinoma by calcium carbid dates from 1896. The late Dr. J. H. Etheridge, of the Chicago Policlinic, following some German physician, first brought this treatment into notice in America. He published the results of his experiments in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, in July, 1898, highly recommending the treatment. Dr. W. B. Coley, of New York, took up the subject and published a monograph in Vol. 17 of the *Twentieth Century Practice of Medicine,* commending the treatment and presenting a flattering report of cases. This article has been widely circulated. Dr. A. H. Cordier, of Kansas City, last year read a paper recommending the treatment before the Mississippi Valley Association at Asheville, N. C. Comments are continually appearing in the American medical press as well as brief reports from German and French periodicals. The last editions of several standard text-books on gynecology have recommended the treatment.

The first attempt at a real exposition of the exact action of calcium carbid was made by Dr. Emil Ries before the Chicago Medical Society, and published in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION in November, 1896. This paper deserved more general attention than it received.

The growing widespread conviction of the value of calcium carbid seems to me a sufficient excuse to attempt to review carefully the theoretical and practical status of this treatment.

The procedure usually advised in applying the carbid is, 1, the removal of all necrotic tissue by the curette; 2, hot irrigation, cleansing and drying the wound; 3, the insertion of one or two pieces of calcium carbid the size of the terminal phalanx of the thumb; 4, fixing the carbid in place by iodoform gauze packing; 5, the removal of the gauze between the second and fifth day, cleansing, drying and repeating the process.

The various claims made by the advocates of this treatment are the following:

1. Acetylene gas has a specific escharotic action on the carcinomatous tissue.

2. Acetylene has an antiseptic action, inhibiting the bacteria of putrefaction and thus reducing odor.

3. It transforms the necrotic area into a clean, contracting, granulating wound.

4. Hemorrhage ceases or is greatly diminished.

5. Wider experience shows its positive value.

6. It gives the patient more comfort and postpones death.

7. It is without danger.

8. It is sometimes capable of producing a complete cure.

Calcium carbid is a hard, grayish, stag-like mass, formed by the union of quicklime and coke at the high temperature of the electric furnace. It emits a garlic-like odor when in contact with the moisture of the atmosphere and crumbles to a grayish-white powder. In contact with water it is violently disintegrated, liberating acetylene gas according to the formula: $Ca\,C_2 + H_2O = Ca\,O + C_2H_2$.

The commercial product varies and contains the impurities of the original materials. Water liberates hydrogen sulphid and hydrogen phosphid in small quantities, to which the odor is due.

Pure acetylene gas is a hydrocarbon having a faint ethereal odor. When impure it has been considered highly poisonous. The pure gas is but slightly toxic. Cushney, in his admirable work on therapeutics, classifies it as one of the medicinal anesthetics of inferior value, dangerous because of its depressing action upon the heart.

Water dissolves 1.1 times its volume of gas. From my determinations, defibrinated blood dissolves but .3 of its own volume, which would be about the limit absorbed by the serum. Rosemann has shown that acetylene forms no combination with hemoglobin, as has been frequently reported.

A saturated solution, as well as the pure gas itself, has no apparent physiological effect when 5 c.c. are injected in the dorsal lymph space of the frog. This I have proven repeatedly by experiment.

The impure gas arising from the carbid in water has no effect upon the open eye long held exposed to its influence, as was pointed out by Ries. I have been unable to notice any effect from a saturated aqueous solution of acetylene instilled into the eye.

I have observed the movements of leucocytes in a warm solution of normal salt saturated with acetylene. They do not seem to differ from normal. I can not find that the motions of motile bacteria or vorticella in acetylene solutions seem to be impeded. Rosemann exposed animals to streams of pure acetylene for several hours without fatal effects.

It would seem from such considerations that Dr. Etheridge was mistaken when he suggested that acetylene gas destroys cancer cells by annihilative action or by chemical change. The similar article by Dr. Coley in the *Twentieth Century Practice of Medicine* is likewise misleading. I believe we are safe in assuming that for all practical purposes acetylene has no physiological action on protoplasm sufficient to give it therapeutic value in the treatment of carcinoma.

Concerning the suggested bactericidal action of acetylene I find allusions to experiments by Professor Hektoen, of Rush Medical College, who is said to have grown several pathogenic bacteria with calcium carbid and acetylene gas with negative results. I have carefully reviewed the work by a series of experiments, growing the micro-organisms in an atmosphere of commercial acetylene gas after the manner of the culture of the tetanus bacillus in nitrogen, using nutrient gelatin. The

* Read before the Texas State Medical Association, Galveston, Texas, April 24, 1901.

streptococcus, staphylococcus, bacillus pyocyaneus, various diplococci, proteus vulgaris and other bacilli of putrefaction, all grow luxuriantly in an atmosphere of acetylene; meat and bouillon likewise decompose rapidly. Fresh urine decomposes as promptly as in the air.

I conclude that acetylene gas has no antiseptic or bactericidal power sufficient to retard the decomposition of necrotic tissue or the infection of healthy tissue, and can play no part in the removal of the offensive odor of the uterine discharge.

The second product resulting from the decomposition of calcium carbid is calcium oxid or quicklime. This almost instantly becomes slaked by the moisture present. The treatment of carcinoma by lime and other caustics is very old, and there are on record reports of the application to the cervix of nearly every known caustic. Beyond question the place of escharotics in the treatment of carcinoma uteri is a very limited one. In case a caustic is desired it is pertinent to inquire whether calcium carbid is a rational selection.

The action of all true alkalies is identical, depending upon their common hydroxyl ion. The degree depends upon their solubility. The alkaline hydrates, like caustic potash, are very soluble; they penetrate to considerable depth into the tissues; they neutralize all acidity; dissolve tissues by the formation of soluble alkali protoids; saponify fats; and withdraw fluid from the tissues for their dilution. They are slowly neutralized and removed by the body of fluids and cause a deep necrotic area, whose base bleeds easily, due to the solvent action of the alkali upon the fibrin of the blood clots. These agents have been given up in the treatment of the uterus because of the deep and dangerous sloughs and the tendency to hemorrhage.

Calcium hydroxide has an identical action, save, as it is but slightly soluble, it penetrates only the superficial layers and has less affinity for the tissues. So superficial is its action that the "cancer doctor," who uses it at all, mixes it with caustic potash in the form of "Vienna paste" to increase its penetration. It has the same tendency to dissolve fibrin and promoting rather than checking hemorrhage.

Metallic salts depend for their chief action on their acid ion. The action is the same as the action of their acid. The degree of the action depends upon the avidity of the acid and the solubility of the salt. They range in power from mild styptics to violent corrosives. The acid ion forms acid albumins. The limit of this action is more clearly marked than with the alkalies because of the neutralization of the acids at a definite level by the alkaline body fluids. The metallic ion forms in most instances insoluble metallic albuminates, which assist likewise in limiting the action. The base of the ulcer is hard and definite. They do not so readily dissolve fibrin and have a styptic action in checking hemorrhage. They can be selected in all degrees of strength to suit the extent of escharotic action desired, as in the series beginning with the mild alum, iron chlorid and lead acetate through mercuric nitrate, zinc chlorid to antimony chlorid, the last being rarely used.

The only argument for a caustic over a curette is its ability to penetrate the tissues and destroy the deep carcinomatous cells of lessened vitality and poor blood supply. The microscopical investigations of Ehler seem to demonstrate the contrary, that carcinomatous tissue is only superficially affected while necrosis of healthy tissue extends to a considerable depth.

I draw from these considerations that a caustic is seldom indicated and then a rational selection would be a soluble metallic salt and not the carbid of calcium.

The antiseptic action exerted by calcium carbid is due to the quicklime and to some extent by the heat liberated.

The decomposition of calcium carbid is attended with the evolution of a large amount of heat. A piece taken between moist fingers becomes too hot to hold. An erythematous redness is frequently seen about the area where carbid is applied. This is due partly to the inflammatory action of the caustic and partly to heat. Patients sometimes complain of a burning sensation. A piece of carbid the size of the terminal phalanx of the thumb weighs about 10 grams. This will liberate 8.7 grams of quicklime and 200 cubic inches of acetylene gas. The whole piece requires 5.6 c.c. or 1.5 drams of exuded serum for its entire decomposition. This disintegration, as near as my experience can determine, usually requires from three to twenty-four hours, varying widely with the vascularity of the necrotic area. I have measured the heat liberated in a calorimeter and find that from 10 grams about 4500 calories are set free, varying somewhat with the sample. This is sufficient to raise 71 c.c. of water from body temperature to boiling, or enough to similarly melt 459 grams of lead. There is no question but the heat liberated is quite sufficient to somewhat cauterize the tissues, especially when serous exudation and consequent decomposition is very rapid. To this heat is undoubtedly due the marked contraction of the wound, and the lessened tendency of the caustic to produce hemorrhage. It is very possible by the application of a large amount of calcium carbid in a thin vascular shell of a uterus to cause a slough producing perforation and fistula, hastening a fatal peritonitis or occluding the ureters, as other caustic agents are reported to have done. Other dangers have been suggested, but are more theoretical than practical.

The heat produced can never compare with the actual cautery which after thorough curettage probably to-day insures the best results in inoperable cases. This fact has recently been emphasized at the last meeting of the AMERICAN MEDICAL ASSOCIATION by Dr. Byrne, who reported the cicatricial scars of the actual cautery almost immune from carcinomatous invasion, and the roasting of the underlying tissues gives the largest immunity from extension. The gratifying contraction of the ulcerated area is more prompt and marked with the cautery than with the heat of the carbid.

The cases treated with calcium carbid that I have had under observation have run their usual typical courses. The cleansing, curettage and calcium carbid have together prolonged the patients' lives and rendered their last days more endurable. The results I can not see are in any respect superior to curetment, antiseptic treatment, the use of the cautery and mild styptic and escharotic applications.

I believe that both theoretical considerations and experience coincide in showing calcium carbid to be much overrated, of some danger, and doubtful utility; not so valuable as a better selected line of treatment suited to each individual case.

It is to be greatly regretted that so many inaccurate statements concerning this agent are creeping into literature. It is recommended in the last editions of several standard texts. In Dr. Garrigues' last edition of his "Gynecology," p. 544, he says, speaking of uterine carcinoma: "Calcium carbid is an important addition

to our palliative resources, which in cases that have not progressed too far may even effect a permanent cure." Cases that should receive "palliative" treatment are certainly inoperable. How the application of calcium carbid can affect the deeply infiltrated extra-uterine carcinomatous masses in such cases is beyond the ken of human reason, and I believe has no ground in experience. It is probable that in a case of incipient carcinoma of the cervix the neoplasm might be totally destroyed by a local caustic, but here calcium would be a poor selection and any palliative treatment would be unsafe to rely upon.

Few statements could be more serious than those of Levet and Guinard in "Nouvelles Rémèdes," of 1898, reported in the medical press, in which they state that they have kept inoperable cases of uterine carcinoma in a "happy statu quo" by the application of calcium carbid every four to five days. Such statements encourage tinkering and losing time on operable cases.

In closing I will draw the following résumé of important conclusions:

1. The mass of the literature on this subject is misleading.

2. The originators of the treatment were ignorant of the real action of calcium carbid, and had insufficient clinical experience to pass judgment on its value.

3. Acetylene has no effect on protoplasm sufficient to support a theory of any specific annihilative action on carcinomatous cells.

4. Acetylene has no escharotic effect.

5. Acetylene has no bactericidal action upon pathogenic bacteria or the bacteria of putrefaction.

6. The principal action of calcium carbid results from liberated quicklime.

7. Lime is not a rational caustic to select, if one is desired, because of its superficial action, the character of the necrosis and tendency to promote hemorrhage. The metallic salts are more styptic, and their action may be better graduated by proper selection.

8. The amount of heat evolved may be sufficient to slightly cauterize the tissues. In most cases it has slight therapeutic effect save counteracting the tendency to hemorrhage and promoting contraction.

9. The heat of the actual cautery promises better results because of the firmer cicatrices, resisting carcinomatous invasion and more complete contraction of the wound.

10. Calcium carbid is open to the same dangers as other caustics when improperly or too zealously applied: those of producing its corrosive action in the wrong place, fistulæ, perforation and fatal peritonitis or occlusion of the ureters.

11. The treatment does not reduce odor or hemorrhage nor give more comfort to the patients than other rational lines of treatment.

12. The claims of advocates have not been realized in experience. There is no evidence in theory or practice warranting the conclusion that calcium carbid could ever cure a case of really inoperable cancer of the uterus.

13. The facts regarding the subject should be more widely disseminated to expurgate medical literature and to avoid false expectations and fatal delays in operable cases.

The Children's Exposition now open at Paris has a medical department, and one of the show-cases contains the photographs taken in early childhood of various prominent physicians. The historical exhibits of children in relation to the physician are artistic and interesting.

MORPHINISM: AN UNUSUAL CASE.

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Some forty years ago, when Dr. George B. Wood's famous work on therapeutics appeared, he wrote concerning morphinism as follows: "It will not answer to break off suddenly. No fortitude is sufficient to support the consequent misery, and life might be sacrificed in the effort. Of the particular phenomena which might result I have no experience; for I have met with no case in which the attempt has been made, or at any rate more than momentarily persevered in." This doubtless was the consensus of professional opinion at that time, and probably it remains substantially the same to-day. From past instruction reinforced by a limited observation, it had seemed to me doubtful whether such a habit was ever thrown off by a patient, unaided, under any circumstances. How rarely a confirmed "morphin fiend" is cured by the most careful treatment, even in retreats, is well known to every practitioner. *A priori* it would seem well-nigh impossible, therefore, that a cure, without aid, should be effected in one who has become a slave to the drug.

Such a case would seem to savor of the sensational, yet such a one recently came under my observation. It is interesting largely on account of the unusual circumstances surrounding the inception and progress of the cure. That the patient has abstained from opium since first putting it away, which was about nine months ago, there is now no doubt. The case seemed so unusual that more than ordinary proof was required before accepting his statements. It is only after an investigation of such thoroughness that deception seems to be beyond question or doubt that a report is offered.

The patient in question was a laborer 45 years old, 5 feet 10 inches in height, weighing 166 pounds, and in better health than for thirty years past. He inherited a taste for alcohol and from boyhood used whisky to excess. Since childhood he has suffered acutely at times with pain due to disease of the left shoulder-joint. In 1884 he began to take a small amount of powdered opium daily to allay these pains. Soon this was mixed with pulv. glycyrrh. comp. in order to increase the bulk and thereby lessen the likelihood of mistake in dosage, as well as with the idea that it would diminish the tendency to constipation. So persistent was his constipation that for years previous to the discontinuance of opium his bowels did not once move without an injection. He avoided cathartics because of the quantity necessary for the desired effect. He found powdered opium and licorice an inconvenient form for daily use, so he added enough glycerin to mould it into pills. This answered all purposes of convenience thereafter. Gradually the amount of the drug was increased until after a couple of years he was using 30 grains of powdered opium daily. Becoming uneasy at this rate of increase he now made an effort to limit the amount. He found, however, that he must continue to have between 20 and 30 grains a day. This he took in three doses—one before each meal.

All this time and for years before, he had been using whisky to great excess. The amount taken daily was seldom less than from one to two quarts. For five years he bought a gallon jug full on an average of every two or three days. While the opium was taken in regular doses, the whisky was used at intervals throughout the day. According to his statements the opium would counteract the effects of the alcohol. Thus, he could

use more whisky than before and still carry on his business as usual.

The difference in the action of the two drugs was this: Alcohol excited him more or less and caused unsteadiness of muscular action. It failed to relieve pain or to lessen his mental troubles and worries in the least, but served rather to magnify them. Opium, on the other hand relieved his pains and lessened his nervousness. It minimized his troubles and furnished ready excuses for them. It gave him rest and a happy, untroubled feeling generally. No matter what happened it always seemed as if everything would come out right in the end. His worst time was immediately after rising in the morning, when he felt weak and powerless. After taking his customary pill this feeling rapidly vanished. Gradually such excesses began to tell on him. He lost weight, appetite became poor and stomach acted badly.

In 1888 he decided to quit using alcohol in any form, and did quit, though he had an attack of delirium tremens which nearly proved fatal. He clung to opium, but kept the amount down to 30 grains or less a day. In the summer of 1900 he had a severe attack of "gallstone colic," which his opium, augmented by liberal amounts of morphin hypodermically by his physician, failed to relieve. His sufferings here were so intense that, following his recovery, he came to a firm resolve to abandon the drug. How great a task he had laid out for himself he afterward declared was beyond conception. The idea he had of it before the trial was that at most it would only be the quenching of a fire which would rapidly burn out as it failed of fuel. He went to a physician and asked for some remedy which would cure him of the habit. The physician not only said he could not furnish such a panacea, but gave him no encouragement and told him plainly that he could not rid himself of a habit so long established. This discouragement only strengthened his resolve, and that night he did not take his accustomed pill. That was about August 1, 1900, and since then he has not taken a single grain of any form of the drug. His weight at that time and previously had been about 145 pounds, his appetite was poor—almost nothing—his bowels moved only with an injection, and in condition he was generally run down. That night he did not find much trouble, though he slept but little and was nervous and fretful. The next day he felt weak and irritable and suffered from nervous symptoms. Then pains set in and it would seem as if some one was pulling and pinching his nerves with forceps. So intense were the twinges that he would jump and writhe with the pains. As soon as he could get at a part to rub it, the pain would fly to another quarter, and by thus shifting would by spells almost drive him frantic. At night such sensations were intolerable. He could not get rest in any posture, to say nothing of securing sleep. He would lie down tired and weak, and finding the bed uncomfortable get up in a few minutes and try the sofa. This being no better he would then throw himself on the floor. Worse than ever, he would take a rocking-chair hoping that perhaps he could snatch a few moments sleep sitting up. Then in the vain hope of so tiring himself that he would fall asleep from sheer exhaustion, he would pace the floor by the hour. Becoming wearied of the room and still unable to sleep he would walk the streets only to find himself as wakeful as ever. If by chance he fell asleep for a moment it would be to awaken directly, often with a scream, to find himself wet with perspiration. He had no visions nor delusions of any kind during this early period, save frequent attacks of night-mare, when he would awaken, covered with cold sweat, and filled with horror from dreaming that he had broken his vows and taken again of the drug.

In spite of all this he took nothing in the way of drugs or medicine for his restlessness. He had broken away of his own accord and not at the solicitation of friends or on the advice of any physician. He did not quit gradually but stopped suddenly, and that, too, with his can on the table at the head of his bed, where it continued to remain untouched for more than six months afterward, half full of opium.

The only thing he found which would procure him any rest was to have his feet bathed in water as hot as it could be borne. While this was continued he could get comfortable sleep. For two weeks the best sleep obtained was while his feet were being bathed in this way. And for the next four weeks he did not sleep to exceed two hours out of the twenty-four. The one symptom most vividly remembered was the inability to obtain rest by all the means at his command; and this, coupled with extreme weakness and depression, seemed more than all else to unfit him for resistance. The twitchings and nervous symptoms, the pain and even the longings for opium, he said could be more easily endured than the feeling of extreme prostration attended with inability to obtain physical rest. Sometimes he would go out in his garden with a hoe in order to occupy his thoughts, but nervousness so disqualified him from applying his mind to the work that he would be obliged to stop. And this led to the fear, which haunted him day and night, that he would lose his mind.

At the end of the first six weeks he began to feel stronger and to observe that he was able to get some rest. He could now begin to secure some natural sleep, and at this point felt that the battle was won. The period just after rising, before breakfast, still continued to be met with dread. At that time a feeling of dejection would almost overcome him, but would in a great measure disappear after breakfast. His appetite had begun to increase almost from the time he weaned himself from opium, and was now remarkably good. His weight likewise was on the increase. The bowels were moving normally, and had come around of their own accord, without physic, from a condition where they had not moved for years without injections to one of daily regularity. The complexion also, from a sallow, muddy color, changed to a healthy and almost ruddy hue, and his lusterless and apathetic eye took on a more natural appearance, so that his friends remarked on his improved condition. After the lapse of three months he felt perfectly cured and weighed 166 pounds, which is his weight to-day, and the only symptom then remaining was a feeling of languor on arising and lasting until breakfast. This symptom has not even yet entirely disappeared. Since his abrupt breaking off last August he has not taken opium in any form and does not now crave it. His half-filled opium can sits before me now—a silent testimonial of what can be accomplished by mere will-power alone.

Samples of his urine have been repeatedly tested for the opium reaction by Hausemann's and other tests with negative results. This was done to insure against fraud, and should in itself be a proof of abstinence. In view of all this, as well as the man's straight-forward story, his generally improved condition, and the time which has elapsed since his discontinuance of it, it

would seem that one is justified in considering this to be an accomplished cure.

The amount of opium taken daily in this case was not phenomenal—most physicians can point at once to cases where larger quantities are consumed. The patient, however, had been a slave to it for such a long period—sixteen years—that the habit had become fixed, and quantity then becomes a minor consideration. The habit was certainly as well established and as deeply rooted as if he had used much larger amounts for a shorter period of time.

If a man can accomplish such a cure *alone,* beginning suddenly, with no encouragement and without great stimulus, why should not others desirous of ridding themselves of the habit be cured more easily, in the majority of cases, by an immediate discontinuance of the drug, especially if they have the moral support and the aid of sedatives at the command of a competent physician? This is not meant to advocate a sudden withdrawal of the drug in all cases. Many patients might not be physically strong enough, though having sufficient mental fortitude to undergo the ordeal. What is meant is that it might be advisable to break away from the rule, inflexibly clung to by many physicians, of a gradual diminution of dose. If a patient is not taking doses of unusual size, if there are not great demands—as extreme pain—for the drug, and lastly if the physical condition and powers of resistance are not too much enfeebled, why not stop the narcotic at once and use all energy to resist it instead of drawing out the agony over months instead of weeks? In other words, why not put some of the burden on the physical instead of all on the mental resistance? Would not the chances of success be better in many cases to have a strong temptation to meet for a short time than a lesser temptation for a long period?

SPASM OF THE GLOTTIS AND ESOPHAGUS IN ADULT LIFE.

A REPORT OF TWO CASES.

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Disturbance of function in the motor nerves supplying the upper air-passages and the upper alimentary tract is manifested not infrequently by the sudden onset of symptoms that produce great alarm and distress to the patient.

The first case is that of H. C., aged 54 years and married, who consulted me May 13, 1900, because of an attack of dyspnea that came on about 3 a.m. and just as he awakened from a sound sleep. This difficulty in breathing was attended by spasmodic crowing inspirations, with great mental distress and anxiety, and after the attack passed off, which was in several minutes, he felt weak and so miserable that the following day he lacked ambition enough to go to his work, that of cashier in a bank. An examination of his throat by direct inspection and with the laryngoscope disclosed nothing abnormal, notwithstanding his referring all of his trouble to the larynx. His pulse was 105, breathing a little labored, tongue covered with a heavy, yellowish-white coating, breath markedly offensive, bowels constipated, skin relaxed and moistened with a cold perspiration, and of a sallow color. The urine was free from albumin and sugar. The heart and lungs were sound, nor did I detect a lesion in the other viscera. He denied venereal infection and stated that his family doctor had been treating him more than two months for these spells, without success. He attributed his affliction to having slept with his son while he had the whooping-cough. However, this act was not followed by cough nor did his dyspnea come on with any regularity.

Most of the attacks occurred between midnight and 4 o'clock in the morning, arousing him from sound sleep, still he had attacks after rising in the morning and as late as 8 o'clock. Sometimes he would go two weeks without a spell, and again he might have several in one week. Their duration as a rule was from a few seconds to one or two minutes.

He was a fleshy man with flabby muscles, a temperate drinker and smoker, but a good hearty eater, with little inclination for exercise, using the electric-car much of the time to and from business. He had buried one wife, then met business reverses, but later happily married and again prosperous. He was given a laxative pill at bed time containing blue mass and colocynth and heroin and salicylate of soda three times daily. In the next ten days he had two more attacks, quite mild in comparison to the one at the time he first consulted me. Upon my recommendation he gave up business and took a prolonged vacation. The attacks of dyspnea, however, continued to recur, steadily grew more severe, and finally symptoms of dysphagia set in with unmistakable evidence of carcinoma involving the lower end of the esophagus and stomach. Death occurred on the night of November 2, and Dr. E. Linthicum, who conducted the autopsy, reports that the lower end of the esophagus and stomach were the seat of a primary carcinoma, with extensive secondary deposits in the left lobe of the liver.

The second patient, M. S., 31 years old and married, was referred to me by Dr. E. Linthicum, Feb. 6, 1900, because of an acute attack of dysphagia. He came to my office during the noon hour, in great distress, and said that while at dinner he suddenly found himself unable to swallow. Upon offering him some water and requesting that he swallow it, the liquid was retained a moment and then forcibly expelled through the nose and mouth with a gurgling throat sound. Direct inspection of the mouth and throat as well as careful examination with the laryngoscope did not reveal a cause for the trouble, relief for which was obtained after five minutes' inhalation of a compound cocain mixture in the globe nebulizer.

The patient stated that he had his first attack of inability to swallow some thirty days before, but it lasted only a few moments and did not alarm him much. After that he had a number of such spells, usually when eating in a hurry, a bolus of food lodging momentarily in the throat, after which it was swallowed with difficulty.

He was a spare, nervous individual, an overseer in a large cigar factory. His person had a very strong odor of tobacco, but he assured me that he only smoked two or three cigars a day. The attack for which he consulted me was by far the most severe of any he had had, and lasted over half an hour. He was given bromid of potash with tincture of cannabis indica, three times daily, and a little local treatment for an existing simple naso-pharyngeal catarrh. During the two weeks he remained under observation he had two or three more comparatively mild attacks of momentary duration, when he ceased visiting me because satisfied with his condition. A few months later Dr. Linthicum detected positive evidence of tubercular involvement of the upper lobe of the left lung, for which he sent him to Colorado.

While the great majority of cases of spasm of the

larynx and esophagus bear a close relation to hysteria or neurasthenia, yet the possibility of the symptoms being due to pressure on the recurrent laryngeal and esophageal nerves should always be borne in mind, and a diagnosis not arrived at until such pressure has been most carefully excluded.

MAGNETIC FOREIGN BODIES IN THE EYE.

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The class of patients with whom we have to deal in our subject may be said to belong for the most part to laborers or mechanics, whose daily occupation requires that they strike steel upon steel or steel upon iron as the case may be.

We may speak of steel or iron interchangeably. Either causes deflection of the magnetic needle; each can be located by means of the Röntgen rays; both are attracted by the magnet, and the one is as destructive as the other.

Small particles of iron or steel are occasionally found loose in the conjunctival sac. When seen there they have usually first struck and probably loosely imbedded themselves in the cornea or bulbar conjunctiva and afterward become dislodged. They are then principally found just under and a little above the margin of the upper lid and are naturally easily removed.

Fig. 1 Shows the Hirschberg Sideroscope.

Small chips of iron or steel are frequently found imbedded in the cornea—they then cause considerable pain, lacrimation and photophobia. If located in the horizontal meridian or a little below it the degree of pain may be lessened by the patient's constant effort to limit the act of nictation, thus keeping the eye open as much as possible, thereby diminishing the amount of irritation caused when the lids are in contact with the foreign substance. Such particles of iron may be overlooked by the patient or his friends. If left alone they rust and cause more or less infiltration and frequently are the seat of infection. We are enabled to detect them in good daylight or by means of focal illumination—still more definitely by the use of a corneal magnifier. If loosely imbedded, we may use a probe around which is wrapped a piece of absorbent cotton, moistening it and wiping the foreign body off. If firmly imbedded, the cornea should be anesthetized either with cocain or holocain, the eye steadied with the fingers and under good illumination the foreign body removed with a spud or gouge made for that purpose. Or we may loosen the particle and apply a strong magnet. If rust is present it is well to remove as much of it as possible.

If the foreign body is deeply located in the tissues of the cornea, we should, if necessary, cut the overlying portion with a small cataract knife and then apply a strong electromagnet. In this way we lessen the possibility of further injury to the cornea or of having a sharp piece of iron penetrate into the anterior chamber during the process of removal.

Fig. 2.—(Reduced)—Skiagraph showing foreign body located between the two pieces of fuse wire.

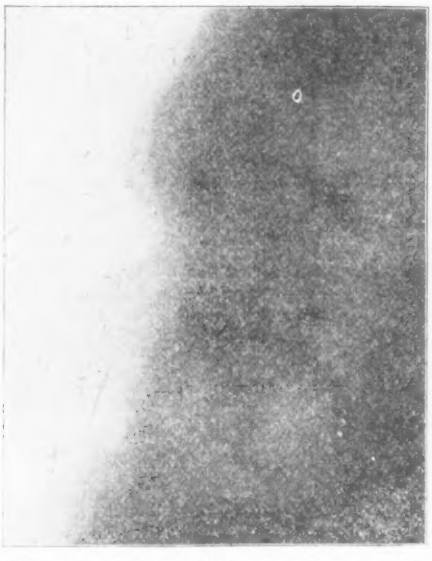

Fig. 3.—(Reduced)—Skiagraph showing foreign body between the four fuse wire landmarks. When held at a distance of half a meter the contrast is best.

The importance of strict asepsis in all cases can not be over-estimated. If infection is already present, we should use an antiseptic and then irrigate with an aseptic or mildly antiseptic solution. If much irritation is present, instill atropin and apply a pressure bandage.

Small sharp pieces of iron are occasionally found imbedded in the sclera. Owing to its elasticity and density, it, in many cases, resists the impelling force of the foreign body sufficiently to prevent penetration, or, on the contrary, it is entirely penetrated by it. It is

as a rule easy to locate and remove these pieces of iron from the sclera.

Before considering the more complicated subject of injuries due to penetration by, and retention of, the magnetic body, we will speak of the history and diagnosis of such cases. The patient, perchance, tells us that he has been working with hammer and chisel, and that upon striking a blow something hit him in the eye. Occasionally bystanders are the recipients of small pieces of steel in the eye. Many times patients try to assure us that nothing has penetrated the globe. They complain often of having only comparatively slight pain; of photophobia, lacrimation, together with more or less diminution of vision. We may find only a linear scar, the edges of which are already in apposition.

After examining the eye well in good daylight, we determine approximately the amount of visual acuity —field of vision—then examine under focal illumination and with the ophthalmoscope. Next in order is the sideroscopic examination. The value of the sideroscope in determining the presence of iron in the eye, and too, its approximate location, is much underrated. Dr. Thomas Pooly of New York was the first to use the compass needle in determining the presence of iron in the eye. All sideroscopes have been modifications of his. In 1894 Asmus devised one which has been successfully used up to the present time, but as it is somewhat complicated in construction, it requires the services of a good assistant for its successful employment. I have seen Professor Hirschberg get brilliant results with this instrument of Asmus's, and two years ago it was my pleasure to see him demonstrate, before the Berlin Ophthalmological Society, a sideroscope designed by himself. Its mechanism is simple and it gives excellent results. In structure it consists of wood, brass and glass. There are two substantial wooden brackets which should be firmly attached to a solid wall running north and south, or nearly so. Upon the upper bracket is an adjustable upright standard, the upper part of which consists of a glass tube. In the middle of the standard is an oblong chamber of brass on each end of which is fastened a small glass capsule. In the upright tube is a fine brass thread attached above to a revolving screw. On the end of the thread hangs a magnetic needle, upon the middle of which is fixed a small mirror. Upon the lower bracket swings a standard, bearing a lamp, rays from which pass through a strong lens on to the mirror of the swinging needle. A graduated scale is placed in position and the lamp so adjusted that the reflected rays fall upon a graduated screen.

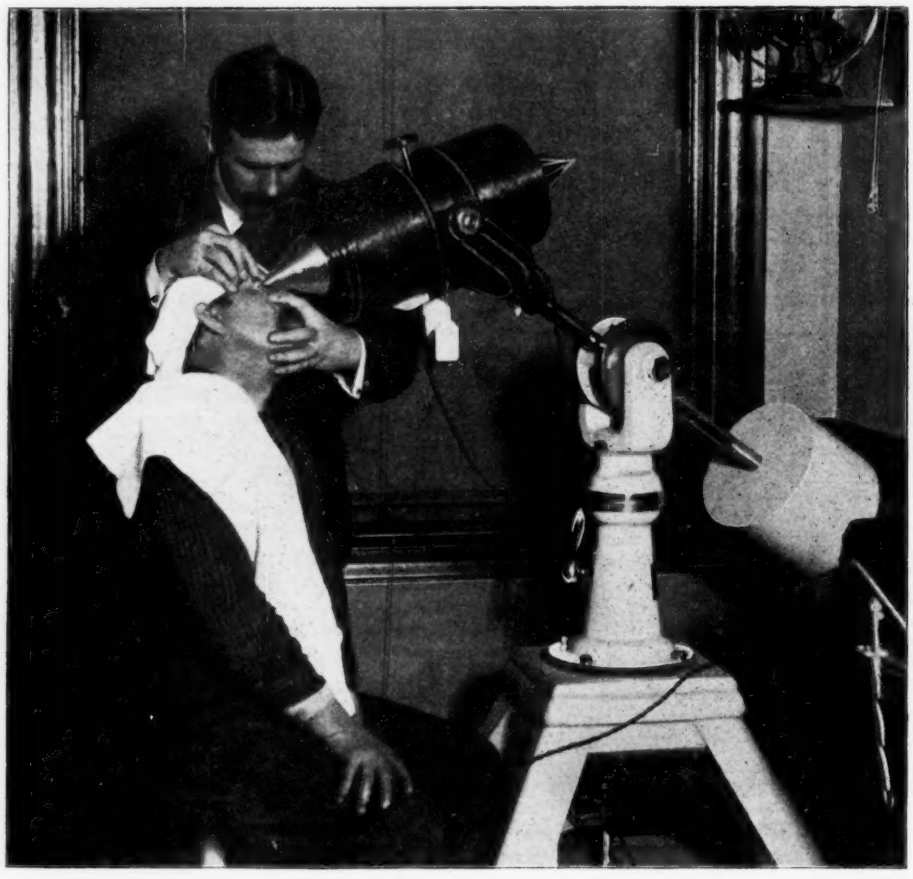

Fig. 4.—Shows the Haab Magnet, as used when the patient is in the sitting posture.

For convenience of expression we may divide the eye vertically and horizontally, thus giving us four quadrants, an upper and lower nasal and an upper and lower temporal quadrant. Cut No. 1 shows the glass rod—within which is balanced a magnetic needle—as being almost in contact with the eye at about the juncture of the lower and middle third of its lower nasal quadrant, 7 mm. from the sclerocorneal junction. Here we find the needle gives the greatest reaction which, as the indicator shows upon the screen, measures 4 degrees. If we get little or no reaction of the needle when applied to an eye in which we have good reason to believe iron is present, we should bring the patient's eye into the field of a strong electromagnet. This magnetizes the retained iron and consequently results in

its giving a better reaction when the eye is again brought into the field of the needle.

In no case should we undertake an extraction nor should we even cause dislodgment of a chip of iron until we have if possible determined its location and relative size. In order to do so it will frequently be necessary to utilize the Röntgen rays. The first foreign body removed successfully after location with Röntgen rays was reported by Williams.[1] De Schweinitz, Hansell, Sweet, Oliver, Percy, Friedenberg and others have since reported favorable cases.

In order to obtain good results in *x*-ray work,[2] the head and eye of the patient must be kept motionless during exposure. This is best accomplished by having

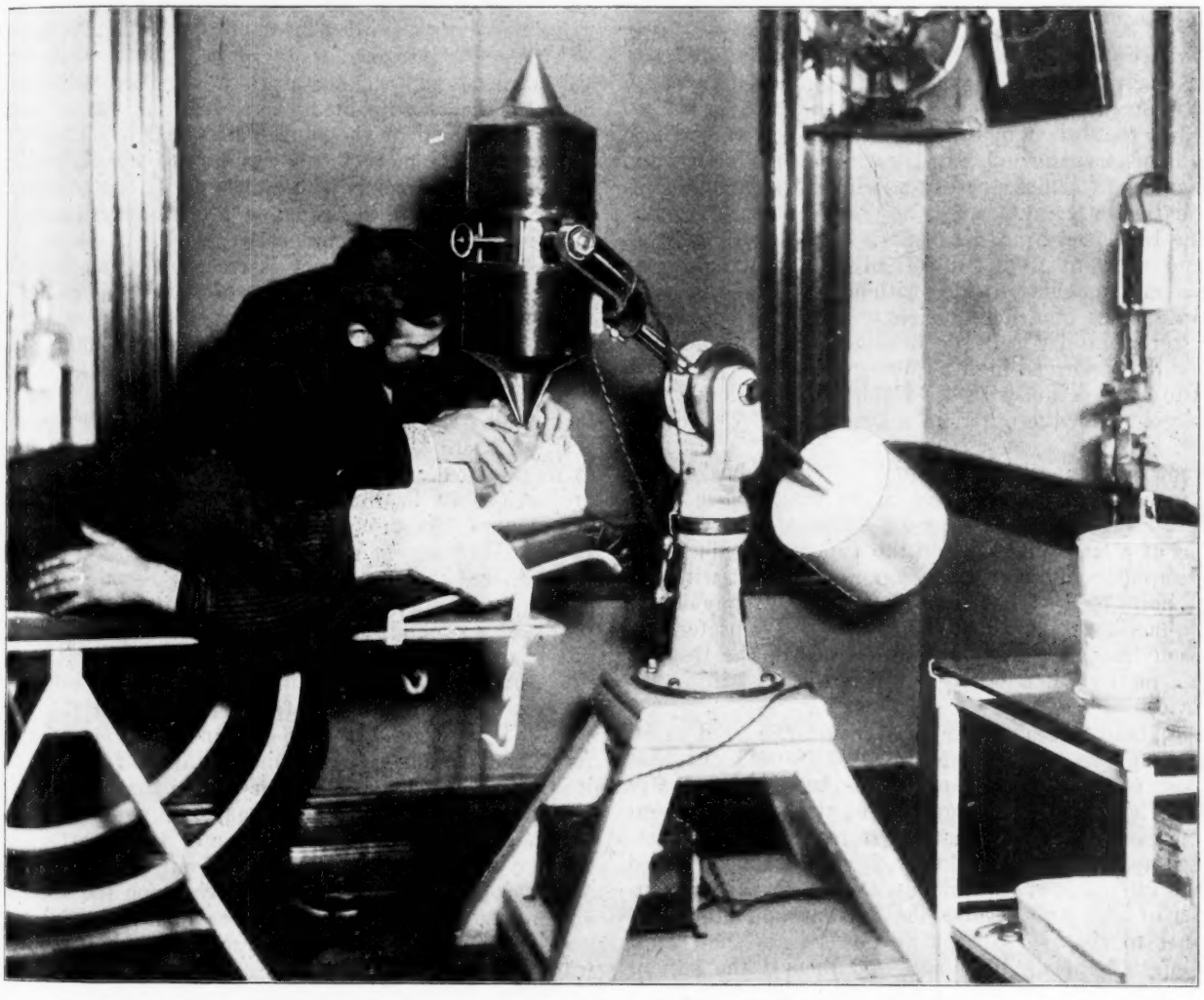

Fig. 5.—Haab Magnet as used when the patient is in the recum bent position.

the patient lie upon a table designed for that purpose. The eye should be kept closed. Knowing that the rays travel in straight lines, we endeavor to place the tube and plate in such a position that we get a bitemporal skiagraph and also one taken in a fronto-occipital direction.

Before making an exposure in the bitemporal direction, four pieces of fuse wire, each 6 mm. in length, are placed—and held in position by means of ordinary court-plaster—over the temporal region of the eye so that the enclosure represented between their inner ends corresponds to an area a little larger than that corresponding to the lateral area of the eye. These pieces of fuse wire show distinctly on the plate after development.

If there be upon the plate more than the four regular outlines of the wire, we know we have a foreign body, and, moreover, we know its approximate size, location and shape as seen from this direction. We may still better locate it by placing a piece of paper cut exactly the size of the normal eye upon the plate between the four artificial landmarks, and mark upon it the location of the foreign body. Then, in turn, we place the paper over the area between the landmarks upon the patient, then designate the location of the foreign body by means of an anilin pencil.

In the anteroposterior exposure two pieces of wire may be used. They are placed, one upon the upper, the other upon the lower lid in such a manner as to represent the diameter of the eye from above downward. Comparisons are in like manner made here as before.

We now come to the subject of the extraction of the magnetic body. The use of the magnet in surgery of the eye was first recorded about 250 years ago, when Wm. Fabry, a German, removed a small piece of iron from the cornea by means of a lodestone (1656). It is a little over half a century (1842) since Meyer, also a German, removed, through the wound of the sclera, a piece of iron from the vitreous, using a thirty-pound magnet. About a quarter of a century later, McKeown, of Belfast, made the first recorded equatorial incision

1. Trans. of Am. Ophthal. Soc., vol. ii, p. 708.

2. I am much indebted to Dr. Harold Sneve for aiding me in my efforts to obtain good radiographs.

(1874) for the removal of a piece of iron from the vitreous, which he accomplished by means of a magnetized rod of iron—the so-called permanent magnet. In 1877 Hirschberg perfected his electromagnet, and two years later operated successfully with it on a difficult case, making the first recorded meridional incision.

In 1894 Haab, of Zurich, constructed a giant magnet on the principles of the one used by Meyer in 1842. So many good descriptions of the magnet have been published that I shall here say but little regarding its structure. It consists of a cylinder of soft iron, around which is wound many layers of insulated copper wire. There is a cut-off switch fastened to the wall, also a resistance box at its base, with a number of steps which allow the gradual admission of the current, thus enabling an assistant to regulate the amount of force required by the operator. Meyrowitz has mounted the Haab magnet so that it may easily be moved in practically any direction.

I find that when in the recumbent position, the patient is often under much better control. This applies particularly to those cases in which the amount of traumatism is great.

The Hirschberg magnet consists of a soft bar of iron around which is wound a coil of fine insulated wire. It is a hand magnet provided with a number of variously shaped points of different sizes. It can be connected to a series of dry cells or to a zinc carbon element, and will support as high as 500 grams. It should be used in conjunction with the Haab. What the one will not accomplish, the other, in a large majority of cases, will.

Knowing the position of a foreign body lodged in the interior of the eye, we elect as to whether we shall remove it through the tract of entrance; draw it by means of a large magnet into the anterior chamber and afterward through a corneal section, remove it with the small point of the Hirschberg magnet; or we may decide that a meridional or an equatorial incision is preferable. In each instance it is our aim to remove the iron by such a method that it will result in the least injury to the eye.

The Haab magnet is and has been much used as an important factor in diagnosis. When used for that purpose the head of the patient is brought gradually toward the pole of the magnet. If pain be then present or increased we know that the foreign body has impinged upon the tissues; finally, if after we have turned on the full force of the current, we get no pain nor increase of pain, we reverse the current and apply the magnet to the eye so that its power-lines shall have had effect from all directions, and then if the patient complains of no pain, we infer either that there is no magnetic body present or else that it is too firmly imbedded to be affected by the magnet.

The magnet as a diagnostic instrument should be applied only after all other means have failed to show the presence of iron or steel in the eye. It is of the greatest importance that the patient be seen as soon after the injury as possible.

British vs. Boer Eyesight.—In an address before the Society of Arts, in London, Mr. B. Carter, according to *The Lancet*, referred to the statement often made in the daily press, that the average vision of the Boers is superior to that of the British soldiery. He said that the Englishman, being accustomed to town life, does not allow for the purity and transparency of the air of South Africa and accordingly misjudges distances.

THE IMPORTANCE OF INSTRUCTION IN MEDICAL SCHOOLS UPON THE MODIFICATION OF MILK FOR PRESCRIPTION FEEDING.

ANDREW H. WHITRIDGE, M.D.

BALTIMORE, MD.

During the last fifteen years we have noticed a great change pass over the question of infant feeding, both in the minds of the laity and of the members of our profession. We have seen a few aspects of this question change from hazy uncertainty into a phase of enlightenment. This change has been as remarkable as it is encouraging to the profession. For example, it is conceded that the feeding of infants should be wholly under the control of the physician. Just as the midwife has been superseded by the obstetrician, the ignorant nurse or untrained mother must be superseded by the trained and qualified physician. This position is held by the intelligent layman quite as firmly as it ought to be held by the educated physician. That it is very frequently more firmly maintained by the patient than by his physician is largely due to those medical schools which have neglected to prepare physicians for this important and remunerative work. A large part of the mortality of infancy is traceable to the lack of importance given to the subject of scientific feeding in the schools.

It is also conceded that in the absence of the proper breast milk some modification of animal milk should be employed as a substitute, and that cows' milk should form the basis of all scientific infant feeding. From this position there is now no deviation. Specialists differ as to the forms of modification, as to percentages and proportions, as to diluents and other matters of detail, but none differ from the general proposition stated above. However, scientific substitute feeding requires an intimate knowledge of milk, of breast milk as the primary example, and of modified cows' milk as the practical copy. It is not the fault of the average physician that this subject is to him often a *terra incognita*. It is mostly the failure of the medical school to lay the suitable foundation for this experimental knowledge. It is conceded that the modification of milk for infant feeding is a very simple thing of itself. Yet it is often regarded as a mystery and a snare in medical practice. The schools might make its complete study one of the simplest as well as one of the surest means of practical medical education. In our medical schools of the South there are no means by which the students or the post-graduate physician can obtain the training necessary to enable him to conduct thoroughly scientific infant or invalid feeding. Students in some of our Northern schools of medicine have opportunities to become more or less familiar with this branch of medicine, but in the South they have no such opportunities. These should be supplieded and I here make an earnest appeal that medical schools throughout this country obtain qualified men who will devote their time and energy to the teaching of this great subject. Since summer diarrhea is such a factor in our mortality, I suggest that at least during the summer months such of our schools as maintain a high standard of education should appoint qualified men who shall lecture by regular weekly lectures to students and post-graduate physicians, in the practical knowledge needed to understand this branch of our work. It would be an inestimable gain to earnest men to have such knowledge of the cow, her milk, its care, and the bacteriologic relation of such matters to the employment of milk for infant

feeding imparted by a competent instructor. If such a chair were founded in our schools, for example, and a proper man found to fill it, we should realize that advance had been made in pediatrics.

The milk laboratories that have been established in many cities of the United States have done much to further the scientific feeding of infants. Those physicians who employ these laboratories most largely speak most strongly of the results obtained. My own experience in the use of milk modified according to my prescriptions, at the laboratories, has been so satisfactory that I can not praise this method too highly, and I should like to see a milk laboratory within the reach of all physicians who have infants to feed artificially. This, however, is impossible, and at best only a percentage of physicians can reach the laboratories with their prescriptions. But all physicians intending to devote themselves either to general medicine or to the special work of pediatrics should be permitted and encouraged to lay a solid foundation for this work while they are in the medical school. Therefore, I hope my appeal for special instruction in feeding of infants will not be made in vain.

A NEW PROCTOSCOPE AND SIGMOIDOSCOPE.

WILLIAM M. BEACH, A.M., M.D.
Secretary of the American Proctologic Society.
PITTSBURG, PA.

This new instrument differs from the ordinary rectal tube in that it contains an illuminating attachment.

Figure 3.

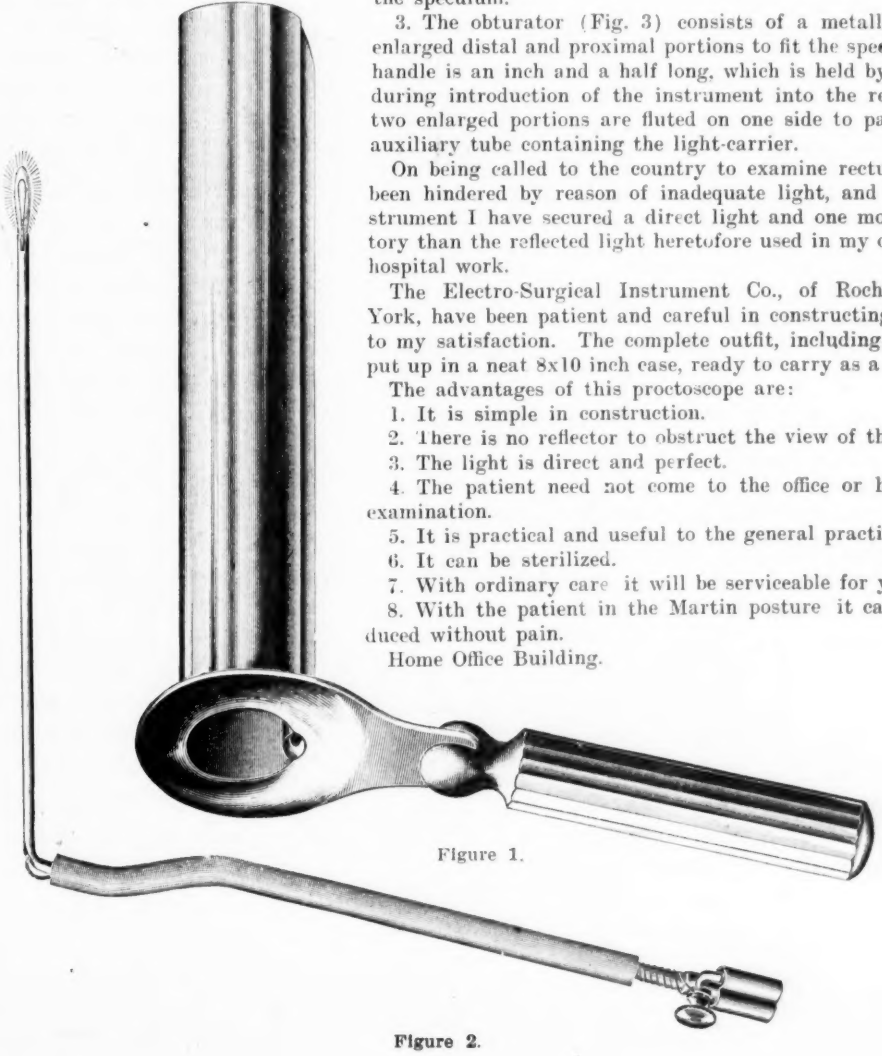

Figure 2.

The apparatus complete consists of the metallic tube, a metallic light-carrier, and a metal obturator.

1. The tube (Fig. 1) varies in length from an inch and a half (the anoscope) to eight inches. Though any length can be made, the set usually contains three sizes: 1, the anoscope, one and a half inches long; 2, the proctoscope, four inches long; and 3, the sigmoidoscope, eight inches long. For diagnostic purposes, the caliber is seven-eighths of an inch; for operative purposes, as valvotomy, or removal of high-up polypus, the caliber is one and one-fifth inches, the same as in Martin's set. The handle is round and corrugated, and placed at the usual angle with the axis of the tube. In the wall of the tube on the side of the handle is an auxiliary tube projecting both within and without the speculum to receive the light-carrier (Fig. 2); it is so constructed that the diameter of the speculum is not appreciably enlarged or the caliber lessened. The auxiliary tube is lined with cement, holding in place a specially prepared glass which serves as a window at the distal end of the speculum. This glass can be subject to high temperature, so that the instrument can be sterilized with impunity. The glass window protects the incandescent light from any mucus, blood or other material that may be present in the ballooned rectum.

2. The light-carrier consists of a very light tube with a four-candle power incandescent lamp on the distal extremity, properly wired, and made to conform with the shape of the speculum, when placed in the auxiliary tube. The proximal extremity receives the wires from a dry-cell battery, the source of light. The handle is covered by rubber tubing to protect the wires, and is clamped to the upper border of the handle of the speculum.

3. The obturator (Fig. 3) consists of a metallic rod with enlarged distal and proximal portions to fit the speculum. The handle is an inch and a half long, which is held by the thumb during introduction of the instrument into the rectum. The two enlarged portions are fluted on one side to pass over the auxiliary tube containing the light-carrier.

On being called to the country to examine rectums, I have been hindered by reason of inadequate light, and in this instrument I have secured a direct light and one more satisfactory than the reflected light heretofore used in my office and in hospital work.

The Electro-Surgical Instrument Co., of Rochester, New York, have been patient and careful in constructing the outfit to my satisfaction. The complete outfit, including battery, is put up in a neat 8x10 inch case, ready to carry as a satchel.

The advantages of this proctoscope are:

1. It is simple in construction.
2. There is no reflector to obstruct the view of the operator.
3. The light is direct and perfect.
4. The patient need not come to the office or hospital for examination.
5. It is practical and useful to the general practitioner.
6. It can be sterilized.
7. With ordinary care it will be serviceable for years.
8. With the patient in the Martin posture it can be introduced without pain.

Home Office Building.

Figure 1.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, JUNE 22, 1901.

THE PARASITES OF CANCER AGAIN DISCOVERED.

Last year Max Schueller, of Berlin, in a preliminary report,[1] described certain organisms, probably of animal nature, which he by original methods had succeeded in cultivating from human carcinoma and sarcoma. The complete report is now at hand[2] in the form of a monograph of 128 pages with numerous illustrations. One might fear that these numerous discoveries of the cause of cancer—Sjöbring, Eisen, Gaylord, Max Schueller all describe animal parasites as the cause—would lead to complicated questions as to priority. Fortunately, or rather unfortunately, the differences in the descriptions of the various authors are so great that there is little likelihood of any troubles on this score. Schueller makes an earnest effort to avoid the subjectiveness that unfortunately has characterized some of the publications of enthusiastic investigators into the hidden problems of the cause of malignant tumors, and practically the whole of the book is taken up with a detailed statement of the results of his studies. Recognizing at the outset the futility of attempting to solve the question by purely histologic methods, he set about to discover some way in which the organisms, which he felt sure are present in these tumors, could be grown in pure culture. Successful pure cultures are described as being quite easily obtainable by keeping absolutely uncontaminated pieces of malignant tumors in small, air-tight glass vessels, protected from light and at the temperature of the body. A prerequisite for successful growths is continuous maintenance of the pieces at bodily temperature from the very moment they are removed from the body of the patient. The tissue of the tumor itself thus constitutes the nutrient substratum, and as the parasites already present in the medium begin to grow the cells of the substratum are destroyed or consumed and replaced by multiplying organisms. Small, fine granules, clumps or drops soon appear in the vicinity of the piece and tissue, consisting of rounded or oval bodies of golden-yellow or brownish color, three times or more the size of a red blood-cell. They have a thin, doubly contoured wall or capsule, which seems to be provided with numberless pores through which mobile protoplasmic processes may pass out, especially in young, vigorous forms. The presence of a nucleus is mentioned. Sometimes three to four and more globular formations are seen within the capsules, and these are regarded as stages in the development of young organisms. "Cultures" such as those here referred to are free from saprophytic and other bacteria, there is no putrefactive odor emitted, the odor present being described as characteristic and as different for carcinoma and sarcoma, the organisms from which also present some differences in their appearances. The pores and the mobile, thread-like protoplasmic processes, which emerge from them, are described as subservient to nutrition. The organism as a whole has a minimal degree of motion and is exceedingly sensitive to all kinds of disturbing influences. Satisfactory methods for subculture have not yet been devised, and the complete biology of the parasites consequently has not been worked out. The color appears to be due to an iron-containing pigment.

Schueller claims to have obtained similar, yet not fully identical, organisms from the lesions of syphilis.[3]

In tumors, organisms are found in flesh tissues if examined immediately after removal. Having studied the parasites in cultures, and consequently knowing what to look for in histologic preparations of dead tissue, Schueller found that they are best demonstrable by teasing pieces in alcohol and cleaning with oil of bergamot or some similar ethereal oil. Celloidin sections may also be used. Momentary staining with alum hematoxylin may be helpful in bringing out details in the tissue, the parasites remaining unstained and easily recognized by their yellow or brownish color. Good results have been secured by means of Mallory's thionin and oxalic stain for ameba coli, the small forms of the parasites staining red. In the tissues Schueller finds large empty capsules and young forms in great numbers, and in such relations to the cells that he draws the inference that the parasites certainly exercise a "formative stimulus" upon the cells. Often parasites are found in masses in the tissues situated either in a finely meshed network or in canals or tunnels. In glandular metastases of carcinoma he finds numerous parasites, especially at the margins of the carcinomatous nodules, so that it may be assumed either that cells and parasites are transported to the glands, the cells continuing to proliferate under the influence of the parasites, or that carcinoma cells originate *de novo* from the pre-existing cells of the glands, according to the theory of Virchow, now long since abandoned. Schueller, however, finds not a little in support of Virchow's theory, but he does not assume a definite standpoint. In many tumors Schueller finds appearances that indicate the entrance of the parasites into the tissues from without, and upon this basis he discusses, somewhat in detail, the prophylaxis of tumors. This assumption presupposes a form or forms of the parasites less sensitive to differences in temperature and other influences than those he finds in the tissues of tumors, but no facts

1. Centralbl. f. Bakt., Abth. I, 1900, xxvii, 129-140.

2. Die Parasiten im Krebs und Sarkom des Menschen. Von Prof. Dr. Max Schueller, Berlin. Jena, 1901

3. Centralbl. f. Bakt., Abth. I, 1900, xxvii, 516.

are given to throw any light upon this phase of the matter.

The animal experiments are given somewhat briefly, and without definite details as to the manner of inoculation, symptoms, duration of life, etc. Lesions, such as necrosis, inflammatory changes, and carcinomatous and sarcomatous proliferations are described as resulting from inoculations with the cultures mentioned in the foregoing. Mixed carcinomatous-like and sarcomatoid growth was observed in the spleen after inoculation with organisms from human carcinoma. Epithelial pearls may form in proliferations of the tubular epithelium of the kidney and of the intestines following inoculations—certainly an anomalous finding because, as far as we know, pearls occur only in squamous-celled carcinoma. Typical squamous-celled or cylindrical carcinomas do not appear to have been produced experimentally. The proliferations described may well have been altogether of a granulomatous character, and we are not told whether the rabbits experimented upon, as a rule, died spontaneously or not. Perhaps if they had been allowed to live longer the new proliferations would have subsided and faded away. When we are compelled to say that Schueller has not proved that his organisms produce carcinoma or sarcoma when injected into animals, it means that as a matter of fact the cause of malignant tumors is still unknown.

The biologic nature of the peculiar structures described by Schueller, and designated by him as parasites, is not at all clear. He states that the best zoologic and botanic authorities of the University of Berlin have declared themselves ignorant upon this point. Schueller believes that they are lowly forms of animal life, but not protozoa. Without personal observations and further studies by others it would be useless to speculate as to the nature of the yellow or brown iron-containing bodies that he has worked with. The suggestion will surely be made that they are, in part at least, altered red corpuscles and derivatives therefrom.

Nowhere in the monograph is it stated that the so-called cancer parasites occur freely in the blood of carcinomatous or sarcomatous patients. In Gaylord's overflowing announcement in regard to the protozoa of cancer the parasites are said to occur freely in the blood. It is clearly the duty of physicians and surgeons to not allow long established doctrines, such as the purely local nature of carcinoma in its early stages and its possible permanent curability at that time, to be overthrown or modified in the slightest by premature and unsupported statements of sincere but overzealous investigators into the etiology of cancer. Great harm would result were the impression to grow that cancer is a blood disease sure to break out somewhere else if removed.

Surgeon-General J. Jameson, director-general of the British Army Medical Service, has relinquished his duties and retired to private life.

THE ETIOLOGY OF VALVULAR DISEASE OF THE HEART.

Acute articular rheumatism is in reality so common a cause of endocarditis and consecutive valvular disease, and so much importance has been attached to it as an etiological factor in this connection, that there has been a tendency to overlook or ignore or minimize the part played by other morbid influences. Whether the inflammation of the endocardium be due to the lodgment of the, as yet undemonstrated, bacteria of rheumatism or to the irritative activity of the toxins to which they give rise, it would seem likely from *a priori* reasoning that a similar disturbance might arise in connection with any of the infectious diseases; and that this is really a condition and not a theory there is not wanting evidence to show. Besides, it is well known that valvular lesions at least may develop as a result of purely toxic processes, such as lead-poisoning, alcoholism and gout, and as a part of general arterio-sclerosis from any cause.

It is by no means an easy matter to trace the relations between an existing endocarditis or valvular lesion and pre-existing or coincident disease. Different observers have stated variously the frequency with which rheumatism is complicated by endocarditis and valvular disease. For purposes both of independent analysis and of comparison Worobjew[1] undertook a study of 180 cases of valvular disease of the heart observed in the therapeutic hospital clinic at Moscow from 1892 to 1897 in which a full and reliable history could be obtained, omitting from consideration cases of aneurysm and disease of the aorta without complicating valvular disease and of acute ulcerative endocarditis, as well as purely functional inorganic disease of the heart. A history of acute rheumatism was obtained in 54 of these cases (30 per cent.) although an undoubted connection between the commencement of the symptoms of the cardiac disease and the acute rheumatism was made out in but 20 (11 per cent.) Even in some of the latter it is thought that there may have been antecedent valvular disease, the attack of rheumatism serving merely as a cause for the functional disturbance. In the remaining 34 cases (19 per cent.) the symptoms of derangement of cardiac function made their appearance a longer or shorter period after the subsidence of the attack of rheumatism, so that there may be some doubt as to the relation between the two conditions. In 6 cases (3.3 per cent.) a history of chronic rheumatism was obtained, but it is thought that these cases may fairly be included with the remaining 120, in which there was no relation to acute rheumatism. Of this number 29 were complicated by aortic aneurysm—16 per cent.

It might be supposed that age would be an important factor in the development of valvular disease of the heart through sclerotic processes, but an analysis of these cases from that standpoint showed that those of non-rheumatic origin constituted the larger number at every period. It was found that the acute exan-

1. Deutsches Archiv für Klin. Medicin, 69, B., 5, 6 H., p. 466.

themata and also other acute infections without exanthem played an exceedingly small part in the etiology of acute endocarditis. The question arises whether acute endocarditis may occur as an independent disorder, but the consensus of opinion is that it is merely a clinical manifestation of some form of infection. The number of cases of such obscure or indefinite origin can not be considered as large. There is, however, reason for believing that endocarditis not of rheumatic origin may often be of chronic development, inasmuch as it appears related largely to influences that favor the occurrence of chronic processes, such as cardiovascular sclerosis. It is possible that antecedent acute infections may contribute to this end by lowering the resistance of the organism to such influences; they may at least favor the progress of the disease. In a number of cases further there is no history of infectious diseases whatever. In some also there is evidence of a congenital predisposition to chronic disease of the vascular system. In the cases complicated by aneurysm a history of syphilis, gonorrhea, and malaria was particularly common.

The results of this study may be summarized as follows: Acute articular rheumatism plays a more important rôle in the etiology of chronic valvular disease of the heart than any other infectious disease alone, but it is of less significance in this connection than all other causative factors together. Endocarditis is less commonly of rheumatic origin at all periods of life than it is due to all other causes. It is highly probable that non-rheumatic endocarditis is in the majority of instances not acute in onset, but is a chronic disorder from the beginning.

THE ETIOLOGY OF ACUTE HEMORRHAGIC PANCREATITIS.

Halsted[1] describes the clinical and surgical features of a case of acute hemorrhagic pancreatitis, the postmortem findings in which seem to have led to a valuable demonstration in regard to the etiology of this affection. The patient was a strong man, 48 years old, subject to attacks of "indigestion." Following an attack of this sort there developed great abdominal pain, cyanosis, especially of the abdominal wall, the pulse running from 87 to 92; there was no abdominal distention and but little vomiting. The pain was intense. At the operation blood-stained fluid escaped, areas of fat necrosis were seen in the omental and peritoneal fat, and there was found some blood-stained serum in the tissues about the pancreas. The common bile-duct was distended, but no calculus was found. Death took place soon after the operation.

At the autopsy, by Dr. Eugene L. Opie,[2] there was found the fat necrosis, acute hemorrhagic pancreatitis, and a small firm concretion, snugly filling the diverticulum of Vater, and too large to escape through the duodenal orifice. For a distance the pancreatic duct was stained bright green with bile.

In a number of instances acute pancreatic disease has been associated with cholelithiasis. Opie recently collected 31 instances of this character,[3] and similar cases have been described since then by Lund, Bryant, Stockton and Williams, and others. The etiologic relationship of the two affections are strongly suggested by this association, and the present case seems to furnish the clue to the mechanism whereby the pancreatic lesion is produced, namely, retroinjection (Halsted) of the bile into the pancreas, due to the lodgment in the diverticulum of Vater of a calculus, thereby converting the pancreatic duct into a channel continuous with the bile-duct, from which neither bile nor pancreatic juice could escape. Hemorrhagic pancreatitis has been produced experimentally by injection into the pancreas of a number of irritating substances, such as chlorid of zinc, gastric juice, bacteria, sulphuric acid, hydrochloric acid, etc., but it is clear that these results could not be applied directly to the explanation of the genesis of human cases. Bile had not been injected until the case here mentioned suggested to Opie the possible rôle of bile in acute pancreatitis. He found that injection of bile into the pancreatic duct of dogs caused a necrotizing hemorrhagic inflammation of the pancreas, like that seen in the human cases and accompanied with fat necrosis. The primary action of bile is necrosis of the parenchymatous cells and hemorrhage, rapidly succeeded by reactive inflammation. Hence he concludes that cholelithiasis is associated so frequently with hemorrhagic and gangrenous pancreatitis because gall-stones impacted in Vater's diverticulum force bile into the pancreas. Perhaps the admixture of pancreatic juice with bile in this case intensifies the destructive action. We know from various experiments and observations that steapsin, one of the pancreatic ferments, may cause fat necrosis when it is set free in the abdominal cavity. It is seen that a flood of light has been thrown upon these peculiar lesions, and as is so often the case, the explanations are delightfully simple and adequate. Now that acute pancreatitis is beginning to be understood it will probably not be long before many more cases will come to be recognized than heretofore. As pointed out by Halsted, we must learn to distinguish gall-stone attacks *per se* from those complicated by pancreatic lesions. When such cases are recognized early enough the stone in the diverticulum may be removed. The facts here touched upon will lead also to renewed study of the anatomical relations of the bile and pancreatic ducts and their common meeting-place, Vater's diverticulum.

ALLEGED DRUG HABITS IN VERMONT.

It is charged every little while by certain alarmists that, in some sections of the country, drug habits prevail to a dangerous extent and are increasing among the population. Very often this is alleged to be the

1. Bull. of Johns Hopkins Hospital, 1901, xii, 179.
2. Ibid., 182.
3. Am. Jour. of Med. Sci., 1901, cxxi, 27.

case in prohibition districts with the inference that it is due to the suppression of alcoholic drinks. A sample of this kind of sensational charge is afforded in a recent issue of an Eastern paper, which takes up some alleged statistics of an article said to have been read before the State Medical Society of Vermont, and indulges in the usual generalizations. According to the quoted physician's estimate, there are sold in that state over 3,300,000 doses of opium every month, aside from that prescribed by physicians or contained in patent medicines. This is figured to allow one dose and a half daily to every person in the state over 21 years old, and the journal quoted thinks that this means "that the people of the hills are wooing oblivion with greater assiduity than those of the wicked cities devote to the pursuit of ruin." It reasons out a cause for this in the loneliness of rural life and the social ban on liquor, dragging in incidentally the degenerative factors existing in a state that has been losing its best blood by emigration, leaving an apathetic and discouraged remainder seeking solace for their hard condition in drugs.

Not having the original statistics before us, but assuming that they are quoted correctly, it is worth while to see whether they justify the deductions. Assuming only one-half of Vermont's 343,000 inhabitants to be over 21, it would be hard to figure out an allowance of even seven-tenths of a dose daily for each. Of course the size of the dose figures in the result, but it is presumed that it is not over the ordinary one of, say 1/6 gr. of morphin, or a corresponding amount of opium. It is estimated by Oppenheim that the average morphinomaniac using hypodermics consumes at least 15 grains of morphin daily. The average opium-consumer per os takes no less, and probably much more. It would seem, therefore, that even over three million doses sold each month would scarcely more than satisfy a few hundred confirmed morphin fiends, and would be an average supply for less than 2000 at the most. If there are 2000 or even 1000 in Vermont the condition is bad enough, but it would not by any means imply such a devotion to narcotic indulgences as was alleged by the editorial quoted.

It is an example of the readiness with which a certain class of minds take up and generalize upon imperfect data when they appear to support the individual preconceptions. It is also a fair sample of much of the modern alarmist literature upon medical questions that have a certain popular interest. There may be, though we seriously doubt it, a very large number of habitual "moderate" users of narcotics in Vermont, but it certainly would not take a very large number of real confirmed opium fiends to use up the amount alleged to be consumed in that state.

EXTENDING AN OPERATION WITHOUT CONSENT.

About two years ago THE JOURNAL noticed editorially the decision of a German court in regard to the liability of a surgeon for changing the operation while the patient was under anesthesia, and could not, therefore, be a consenting party. A similar case has just occurred in Chicago,[1] where a woman sued a medical institution to which she had gone to be operated on for hernia. After the incision was made a state of affairs was revealed that required a more extensive operation to save life, and it was done accordingly. Suit was brought on the ground that the surgeon had exceeded his instructions and damages to the amount of $25,000 claimed. The court promptly decided that the surgeon was justified, and ordered a verdict for the defendant, but the case, it is said, will be appealed to the higher courts, which have so far never given out a decision on this point. To the average medical intellect there would seem to be plenty of precedents for saving life without asking the beneficiary's permission, and to decide contrary to this would practically put a premium on murder. There were such in the old laws, but they have been eliminated for the most part in this country and in modern times. It would be a pity if any remained to apply in such a case as this. Of course, the vital point is the danger to life; any consideration short of this should be very carefully estimated by the surgeon before proceeding under such circumstances. In any case it will always be a valuable precaution to have an understanding with the patient before anesthetization that the surgeon is to have his or her full consent to the performance of whatever operation is deemed absolutely necessary. Without this there is risk of unpleasant accusations, and likewise a risk of damages should the higher courts follow the German precedent. Believing, however, as we do, in American common sense, we have faith that the decision of the lower court will be upheld.

THE CANTEEN.

The resolutions passed in regard to the army canteen at the late meeting of the AMERICAN MEDICAL ASSOCIATION are being widely noticed by the lay press, and in a few instances the inferences deduced seem to call for comment. It was certainly not the intention of the members of the ASSOCIATION who voted for the resolution to cast any slur on the honesty or intelligence of those who differ from them on this point, and there are undoubtedly many members of the ASSOCIATION who do not favor the canteen or believe it to be a good thing. The opinion of the great majority of those who voted for the resolution was, we believe, that from the evidence offered it is at best a necessary evil. They simply endorsed it as better than the conditions existing without it. It would be unfortunate if the impression should become generally accepted that the representative body of the medical profession favored habitual liquor-drinking *per se*, even when limited to beer and light wines. It appeared, however, to those who voted for the resolution, to be the fact that a considerable portion of the regular army is recruited from a class that has very little control over its appetites, either as regards liquor or other temptations, and that it is not possible otherwise than by the canteen to create at once conditions that will prevent their gratification in ways that are not desirable. The resolution simply was an expression of opinion of those who voted for it that the canteen

1. See "General News," p. 1791.

is under present conditions a necessity as an adjunct to discipline. It would be well, in case it is reinstated, that it should be under such regulations as will forestall temptation to make its beer-selling function a source of profit or to encourage the acquisition of drinking habits in those not already thus addicted. We can not but recognize the fact that its existence is opposed by the consciences of a very numerous and respectable body of our fellow-citizens, and while many of us may honestly differ with them, it is not, as some of the lay press would apparently have it, without a sincere respect for their worthy aims.

ECHINOCOCCUS ALVEOLARIS SIVE MULTILOCULARIS.

Cases of this interesting form of echinococcus disease occasionally occur in the United States, especially in immigrants from Southern Germany and certain parts of Austria, Switzerland, and Russia, where the disease is not so very infrequent. Recently, Melnikow-Raswedenkow published an extensive monograph based on the study of the parasitology, general pathology, and pathologic anatomy of about one hundred cases from various museums and laboratories of Europe. In Russia the disease is more frequent than commonly thought, and it appears to be of rather wide distribution. Among some of the principal results obtained by Melnikow-Raswedenkow may be mentioned that the disease may be primary not only in the liver, but also in other organs such as the brain, the spleen and the adrenals. The peculiar changes produced in the tissues depend on the growth of the parasite itself, rather than on the nature of the reactions of the cells, so that it is safe to conclude that it concerns a special form of parasite. In most cases the embryo is carried from the intestine into the liver, where it forms a multilocular chitinous mass corresponding to the mature proglottid of the tapeworm. Ovoid embryos and scolices are produced and may penetrate into the surrounding tissues by ameboid movement. Some embryos which reach lymph-vessels or blood-vessels again produce chitinous tufts from which new embryo develop. The essential difference between ordinary echinococcus cysts and the multilocular form is that in the former daughter cysts develop only from the inner layer, whereas in the latter embryos form upon the external as well as the internal surface.

The parasites of alveolar echinococcus disease induce proliferation of cells, accompanied with more or less necrosis, thus leading to a form of infectious granulomatous process, the products of which consist of epithelioid, lymphoid, and giant-cells, and white areas of a form of cheesy disintegration. Metastases may form by way of lymphatics and blood-vessels. The source and mode of infection are as yet unknown. Up to the present time successful feeding experiments have not been made. The disease in man is a dangerous one and so far the only successful treatment is surgical. The most pronounced symptoms in the majority of cases are those of tumor or cirrhosis of the liver, and it will be recalled that for a long time the disease was confounded with colloid carcinoma, Virchow showing that the lining of the irregular cavities with colloidal or gelatinous contents consists of the lamellated cuticle. Jaundice and hemorrhages are frequent, especially in the latter stages.

THE RELATION OF PHYSICIAN AND SURGEON

The fact that mutual benefit is derived from consultations between physician and surgeon, in the case of many affections that were formerly considered purely medical, has been recently emphasized. In all medical affections in which surgical intervention may become imperative to save life, as typhoid fever, gastric ulcer, cholelithiasis, exophthalmic goiter, and numerous others, the physician must either associate with himself a progressive surgeon or thoroughly acquaint himself with the pathologic manifestations that furnish an indication for operative procedure and promptly invoke the aid of the surgeon when occasion demands. Conversely, practical knowledge of the symptomatic indications of this class of diseases, as well as the more refined laboratory methods of investigating them, is of incalculable value to the surgeon. He must at all events be able to interpret the results of laboratory research for the purpose of arriving at an accurate diagnosis. In his Oration on surgery, before the recent meeting of the AMERICAN MEDICAL ASSOCIATION, Dr. John A. Wyeth[1] directed forcible attention to the common error of relying exclusively on the subjective and objective signs, on the one hand, and the importance of calling into requisition those invaluable aids to diagnosis that are furnished by bacteriology, the demostrations of hematology and a careful microscopic and chemical examination of the sputum, gastric juice, and urine on the other. The address of Dr. J. M. Anders, Chairman of the Section on Practice of Medicine, at the same meeting, also contains practical and timely suggestions along the same lines. He emphasized the importance of a closer, truer union between the physician and surgeon, in the operating theater, the clinical amphitheater and at the bedside, as well as the advantages of joint sessions between the medical and surgical sections for the discussion of that growing class of diseases that may present both medical and surgical aspects. Neither so-called medical nor surgical affections are distinct entities, and hence a more liberal joint cultivation of the ever-growing field that is of mutual interest and concern to physicians and surgeons would be an important step in the advancement of the welfare of mankind. Moreover, a more intimate association would tend to lessen the aggressiveness of the surgeon and, what is perhaps even more important and desirable, lessen to an equal extent the conservatism of the physician. Especially when viewed from the standpoint of treatment many affections demand at the present day surgical, coupled with physical, physiologic and therapeutic measures. In short, they require the combined services of the physician and surgeon for their successful management. This new condition of things has sprung from the invasion of the various viscera of the body by the surgeon as the result of improved methods and advancements in his art, and the ultimate benefits as compared with the pure medical treatment of former days are obvious.

1. JOUR. A. M. A., June 8, 1901.

Medical News.

CALIFORNIA.

Dr. **Charles L. Ellinwood,** San Francisco, has been appointed to the Board of Regents of the State University.

A new emergency hospital is to be erected in Los Angeles. It will be a modern structure in every way and will accommodate about 350 patients.

Elizabeth Bard Memorial Hospital, Ventura, is rapidly approaching completion. The superintendent thinks that it will be ready to receive patients within three months.

Dr. **Stanley P. Black,** professor of bacteriology in the medical department of the University of Southern California, at Los Angeles, left, May 17, for Europe, where he expects to spend a few months in Koch's laboratory.

Fire at Presidio Hospital.—A fire at the Army General Hospital at the Presidio of San Francisco, June 10, destroyed three wards, the medical supply room, kitchen and dining room, causing a loss estimated at $25,000. Thanks to the heroism and discipline of the hospital corps men, all patients were safely removed.

State Board of Health.—The governor has appointed the following members of the State Board of Health: Drs. Rudolph W. Hill, Los Angeles; Walter B. Coffey, San Francisco; W. P. Mathews, Sacramento; Charles A. Ruggles, Stockton, and Calvin L. Gregory, Yreka. The new board met at Sacramento, elected Dr. Hill president, and re-elected Dr. Mathews secretary.

CONNECTICUT.

The Hartford Board of Health has organized with Dr. Thomas F. Kane as president, and Dr. Joseph B. Hall as secretary, and has appointed Dr. Arthur J. Wolff, bacteriologist.

Dr. Richard S. Griswold, Lyme, who has served as acting assistant-surgeon in the Army, and assistant-surgeon of Volunteers, in Cuba, the Philippines and China, has been appointed by the President as major and surgeon of Volunteers and ordered to the Philippines.

Experimental Hospital for Tuberculosis.—The Senate reported favorably the following bill: The sum of $25,000 is hereby appropriated to the Hartford Hospital for the erection of an experimental hospital for the treatment of pulmonary tuberculosis in accordance with plans to be filed in the office of the comptroller. State patients shall be admitted to and receive treatment in said hospital, when erected, for the sum of $4 per week.

Sanitation in Connecticut.—In its annual report the Connecticut State Board of Health calls attention to the great difference in the results of private and hospital treatment of typhoid fever. In six hospitals there were 693 cases, and the mortality was only 6.8 per cent., while 1163 cases in private practice showed a mortality of 20 per cent. The sanitary conditions of Connecticut have been greatly improved in the past ten years owing to the increased authority conferred upon health officers. By isolating cases of smallpox and other contagious diseases, disinfecting the premises where such diseases have been found, improving the sewage systems in several places, etc., these officials have reduced the death-rate from 19.2 to 17.9 per 1000 of population.

DISTRICT OF COLUMBIA.

Dr. **Michael J. McIntee** has succeeded Dr. Osmyn Baker as resident physician at the Washington Asylum Hospital.

Columbian Medical School.—The eightieth annual commencement of Columbian University Medical Department was held May 27. Dr. E. A. de Schweinitz delivered the doctorate address and a class of thirty-five was graduated.

Emergency Hospital Changes.—As a result of competitive examination, Drs. Bragonie and T. D. Stewart, of the University of Virginia, and Dr. Kuhn, of Georgetown University, on June 1, assumed their positions as internes in the Emergency Hospital.

Anti-Spitting Resolution.—The Medical Society of the District of Columbia has passed a resolution which declares that spitting upon paved sidewalks creates a nuisance dangerous to health, and should be forbidden by law, and the possibility of difficulty being encountered by the police department in enforcing a regulation forbidding spitting upon paved sidewalks constitutes no valid reason why such a regulation should not be promulgated.

ILLINOIS.

Dr. John F. Sloan has been appointed health commissioner of Peoria.

Dr. Mary M. Mars, Evanston, for two years assistant head physician at the Cook County Insane Hospital, has resigned.

Dr. Joseph Robbins, Quincy, has been appointed superintendent of the Illinois Central Hospital for the Insane, Jacksonville.

Dr. Arthur M. Lee, Carbondale, has been appointed superintendent of the Illinois Asylum for the Criminal Insane, Chester.

Dr. Thomas Foster, who has remained assistant at the Illinois Eastern Hospital for the Insane, under three administrations, has resigned.

Dr. Thomas R. Mullen, Bloomington, has sailed for Ireland on a visit to his old home. Before his return he will make a short tour of England.

Dr. Percy J. Ashburn, lieutenant and assistant-surgeon, U. S. Army, now on duty in the Philippines, has been ordered to Fort Sheridan to relieve Captain and Assistant-Surgeon Francis A. Winter, U. S. Army, transferred to Jefferson Barracks.

Chicago.

The baccalaureate sermon at Rush Medical College was preached June 16, by Prof. Nicholas Senn.

Dr. Warren H. Hunter has been appointed county physician by the Board of Commissioners of Cook County.

Daniel D. Healy, superintendent of public service, has been appointed warden of Cook County Hospital.

Dr. George Dohrmann will leave next week for Europe; he intends taking a course of one year at Vienna.

The German Hospital is to be enlarged by a building to cover an additional frontage of 75 feet, and to cost $40,000.

Provident Hospital benefits at least to the extent of $50,000 by the munificence of the late Dr. W. S. Caldwell, of Freeport.

Rush Medical College held its class-day exercises in the college amphitheater June 20. Prof. James Nevins Hyde delivered the address.

State Board of Health Examinations were held, June 6, at the Great Northern Hotel. About 125 candidates for license to practice medicine in the state appeared.

The cornerstone of the new clinical building for Rush Medical College was laid June 19, the address being delivered by Prof. J. M. Coulter, of the University of Chicago.

Dr. Allen T. Haight and wife sailed for Europe on the *Deutschland*, June 13. He will read a paper on "Tuberculosis of the Eye" before the Congress of Tuberculosis, which assembles in London, July 22.

Dr. Mergler's Bequests.—By the will of the late Dr. Marie J. Mergler, $3000 is devised for the foundation of a scholarship in physiology for women, in the University of Chicago and $3000 for the Woman's Hospital of Chicago.

Rush Medical College held it annual commencement exercises at Studebaker Hall, June 21, graduating a class of 191. The doctorate address on "The Modern Need for Literature" was delivered by Prof. Richard Burton, of the University of Minnesota.

Health of Chicago.—There were 441 deaths reported to the Health Department during the week ended June 15, this being 28 more than during the preceding week and 67 in excess of the corresponding week of 1900. The increase in the week's mortality was chiefly among children under 5 years of age, there being 33 more at this age-division than during the preceding week. Two deaths were caused by sunstroke. Measles claimed 14 victims during the week, this being 10 more than the preceding week.

Northwestern University Commencement.—The forty-third annual commencement exercises of Northwestern University were held this week. The annual alumni meeting and banquet was held at the Great Northern Hotel, June 19; and the commencement exercises of the medical schools at the Auditorium, June 20. The doctorate address was delivered by Rev. James Roscoe Day, Chancellor of Syracuse University, N. Y. The Northwestern University Medical School graduated a class of 74, and 19 were graduated from the Woman's Medical College.

IOWA.

The State Board of Medical Examiners at its last session issued certificates entitling 108 applicants to practice medicine in the state.

Dr. Lee W. Dean, Iowa City, has been elected professor of otology, rhinology and laryngology in the College of Medicine of the University of Iowa, vice Dr. Charles M. Robertson, resigned.

Dr. Charles F. Applegate, first assistant at the Iowa Hospital for the Insane at Clarinda, has been elected superintendent of the state hospital at Mount Pleasant, to succeed Dr. F. C. Hoyt, deceased.

MARYLAND.

The West Nottingham Academy elected Dr. R. E. Bromwell, of Port Deposit, Cecil County, president.

Dr. Carroll's Monument.—The monument to the memory of the late Dr. Thomas King Carroll was dedicated June 12 in the cemetery of Old Trinity Church on the banks of the Little Choptank River, Dorchester County. The people came from all over the county and from distant cities and counties of the state, but were principally those among whom the revered physician lived and labored during his professional career of fifty years. It was a spontaneous tribute to the memory of a noble physician and valued friend. The monument of Italian marble was erected by the contributions of 200 or more of the doctor's patients. It rises from a base of 2 ft. 8 in. broad to a height of 10 ft. 8 in. It stands at the head of the grave in the Carroll lot with an appropriate footstone on which a cross is carved.

Baltimore.

Dr. William Osler, wife and son sailed for Europe June 19.

Dr. Samuel Kohn will spend the summer in South Germany.

Dr. and Mrs. John Turner have gone to Halifax, Nova Scotia.

Dr. T. C. Gilchrist sailed June 20 and will spend the summer abroad.

Dr. Charles E. Simon and family are summering at Chester, Nova Scotia.

Dr. Thomas J. Ward and wife will leave for a trip to the Pacific coast July 8.

The National Temperance Hospital, attached to the Maryland Medical College, has changed its corporate name to Franlin Square Hospital, of Baltimore.

Smallpox.—At the monthly meeting of the State Board of Health, June 12, it was announced that there were but three cases of smallpox in the state, one here, one in Allegheny County and one in Montgomery County.

President Ira Remsen, M.D., of the Johns Hopkins University, will attend the annual banquet of the alumni of the College of Charleston, S.C., and will respond to the toast "The Colleges of the United States."

The University of Maryland Hospital will build a four-story and roof garden on the present nurses' home of the institution, providing 15 sleeping rooms for day nurses and quiet sleeping apartments during the day for those on night duty. There will also be a free infirmary for nurses and a diet kitchen course of three months on the scientific principles followed in the Drexel Institute.

Health of Baltimore.—The annual report of the City Health Department for 1900 contains a valuable series of maps showing the location of every case of diphtheria, scarlet fever, consumption, typhoid fever and pneumonia during the year. There were 1861 cases of diphtheria and 281 deaths; 402 cases of scarlet fever and 20 deaths. The maps show the remarkable fact that only a few cases of scarlet fever and diphtheria develop among the very poor living in the alleys, showing, it is said, the influence of schools in the dissemination of these two diseases since the children of the class just named do not attend school. The annual death-rate was 19.77 per 1000. For whites the rate was 17.48, for the colored 33.42 per 1000. There were 8,653 births and 10,700 deaths reported. Consumption caused 1056 deaths; pneumonia, 1303; Bright's disease, 618; heart troubles, 660, and typhoid fever, 189. An earnest plea is made for a general sewerage system, improved street paving and an infectious disease hospital.

Johns Hopkins Commencement.—The commencement of Johns Hopkins University was memorable for terminating the first quarter century of its existence. There was a marked increase in the number of medical graduates, the class numbering 54. Of these 6 were women, 7 less than last year. The principal address was delivered by Dr. Henry M. Hurd, professor of psychiatry in the medical school and superintendent of the hospital. The following appointments in the Medical School were announced: Charles R. Bardeen, M.D., associate professor of anatomy; Thomas B. Futcher, M.B., associate professor of medicine; Walter Jones, Ph.D., associate professor of physiological chemistry; Robert L. Randolph, M.D., associate professor of ophthalmology and otology; Stewart Paton, M.D., associate in psychiatry; Percy M. Dawson, M.D., associate in physiology; Eugene L. Opie, M.D., associate in pathology; and Henry Barton Jacobs, M.D., and Thomas McCrae, M.D., associates in medicine.

MICHIGAN.

Grand Rapids Medical College held its fourth annual commencement exercises June 3. The address to the graduating class was delivered by Dr. Clarence H. White, president of the college. Degrees were conferred on a class of fifteen.

Saginaw Valley Medical College, Saginaw, held its fifth annual commencement, May 22, and graduated a class of twenty-six. Dr. Victor C. Vaughan, dean of the Medical Department of the University of Michigan, delivered the doctorate address.

Health in Michigan.—In the Monthly Bulletin of Vital Statistics, the report of the secretary of the State Board of Health, based on the sickness statistics, shows that in the month of May, 1901, compared with the average in the ten years preceding, scarlet fever, smallpox and typhoid fever were more than usually prevalent; and consumption, remittent fever, inflammation of bowels, measles and cerebrospinal meningitis were less than usually prevalent in the May just passed.

Smallpox in Michigan.—Since the first of January outbreaks of smallpox in 199 localities in Michigan have been caused to cease, and in 132, or 66 per cent., of these outbreaks the disease was restricted to the one household where the first case occurred. Notwithstanding this splendid record of effective work by the health services, state and local, the disease continued to spread because in the other outbreaks where the disease was not restricted to the first household, it was first called Cuban itch, "cedar itch," chicken-pox, or acne, and not reported to the health officer so that restrictive measures could be taken. It is now present in 75 places in Michigan, 5 places more than in the preceding week.

Spreading Life-Saving Knowledge Among the People.—One of the most important but less conspicuous phases of the work being done by the State Board of Health, is shown in the report for April, of a village health officer in Southern Michigan. He reports: "By a letter from the secretary of the State Board of Health, I was induced to report the want of sanitary care and precautions in the last few weeks' life of a patient who died of tuberculosis of the lungs in this village last spring. The poor unfortunate was moved about from family to family of her relatives, and cared for as well as their means could afford, but in utter neglect of all the means of preventing its communication to others. Most of this neglect came from lack of knowledge as to what could be done by poor folks to lessen the chances for taking the disease." By attracting attention to such instances, and by taking advantage of them for the instruction of the people, much can be done and is being done for lessening the spread of tuberculosis.

NEW YORK.

Quarantine against Cleveland is threatened by the Health Commissioners of Buffalo unless the authorities of the former city make strenuous efforts to stamp out smallpox. There are now said to be 100 cases of the disease in Cleveland.

Smallpox.—A serious condition exists in Suffern, Rockland County, owing to the alleged error of the local health officer in diagnosing smallpox as "Cuban itch." The state authorities, at the instance of complaints from New Jersey, investigated and found many cases of smallpox.

The Syracuse College of Medicine has changed its administrative plan so that hereafter there will be no separate administration at the medical college. The finances will be in the charge of the treasurer the same as at the other colleges, except as may be necessary to accommodate any special case.

New York City.

Cornell University Medical College held its third annual commencement June 5, when degrees in medicine were conferred on a class of twenty-six, fourteen of whom were women.

Tuberculosis is hereafter to be classified as a contagious disease by the immigration officials and consumptives from other lands will be denied admittance to this country.

Gift to the Academy of Medicine.—A large portrait of Dr. William H. Thomson was presented to the New York Academy of Medicine, June 6, by Dr. William M. Polk, dean of Cornell University Medical College.

Harsen Prizes.—The trustees of the College of Physicians and Surgeons have established three Harsen prizes for proficiency at the final examinations in practical anatomy, clinical medicine, clinical surgery and several other subjects. The prizes are $500, $300, and $200, respectively, for the three highest men. It has been the custom at the College of Physicians and Surgeons to award a diploma of "examination honors" to each of the ten men of the graduating class who pass the best examinations in trying for their doctor's degree. The ten men thus honored are entitled to take part in special competitive examinations, and the three most meritorious competitors receive the first, second and third prizes, respectively.

WISCONSIN.

The New La Crosse Hospital, which has been erected at a cost of about $50,000, was formally opened to the public May 14. The hospital has accommodation for 50 patients.

St. Mary's Springs Sanatorium, near Fond du Lac, is to be erected at a cost of $25,000, donated by John T. Boyle. The institution will be under the charge of the Sisterhood of St. Agnes.

GENERAL.

Extending an Operation Without Consent.—A woman was operated upon at the Post-Graduate Medical School of Chicago, by Dr. Franklin H. Martin, for the reduction of a large ventral hernia. It was discovered that the patient had tuberculosis of the appendages, which condition had not been indicated by any of the symptoms and was wholly unsuspected. The tubercular condition was quite extensive, and Dr. Martin, being of the opinion that the ovaries had lost their function and that the disease was so developed that there would be no hope for the patient's recovery therefrom, unless the ovaries and tubes were removed, proceeded to remove them. The patient, upon being informed of this operation, instituted an action for assault and battery against Dr. Martin, the Post-Graduate Medical School, Dr. Clarissa Bigelow, and Dr. Eliza R. Morse, for the recovery of $25,000 damages. The defendants, through their attorney, Frank Crozier, pleaded in justification, that although the actual consent of the patient had not been obtained for the removal of the ovaries, yet inasmuch as that was the proper thing to do surgically and inasmuch as the patient's life would have been lost had it not been done, the law would presume that the patient had given her consent that all things necessary be done. The defense thus squarely raised the question as to what is a surgeon's authority when he comes across unexpected conditions while performing an abdominal operation. The point has never been passed upon by any court of review, and the question is still an open one legally. The case against Dr. Martin has been twice tried in the Superior Court of Cook County, once before Judge Brentano, and again before Judge Kavanagh. Judge Brentano directed the jury to find the defendants not guilty, on the motion of the attorney for the defendants, who urged that the plaintiffs had not proven that the operation had been performed. After directing the verdict, Judge Brentano, the point being technical, at once granted the motion for a new trial, and the case was immediately called by Judge Kavanagh, who at the close of the evidence introduced by the plaintiff, on motion of defendant's attorney, instructed the jury to find the defendants not guilty. While he did not expressly base his decision on the theory that plaintiff had impliedly authorized the defendants to do whatever in their opinion was for her best interests, yet he clearly indicated that he would so hold the law to be, should the point be properly raised. The plaintiff prayed an appeal to the Appellate Court, the decision of which will be awaited with considerable interest. Attorneys are somewhat divided in their views as to what the courts will hold the law to be, but the best opinion is that there is absolutely no doubt that when the question is properly presented to an upper court the law will be laid down to be that a surgeon is authorized to do what in his judgment the physical well-being of the patient requires. But until the law is thus established the attorneys agree that it would be best to have the express consent of a patient. It may be added that the patient was a charity case.

CANADA.

Dr. Howard Barnes, Montreal, paid a visit to Cornell University last week, where he installed in the physical chemistry department an exceedingly delicate pyrometer of his own invention, which is capable of measuring accurately a temperature of 3000 degrees Fahrenheit.

McGill Convocation.—Medical degrees were conferred at McGill on the afternoon of May 14 to the number of 91. The four prize men were all graduates in arts, two of them hailing from Toronto University. Dr. William Gardner delivered the address to the students, while Dr. Harold Ker replied with the valedictory.

McGill University has been chosen as one of the institutions which will carry on original research work under the supervision of the newly incorporated Rockefeller Institute of Medical Research. When this work is commenced at McGill it is understood that Professor Adami, of the pathological department, will be in charge.

Ban on Consumptives.—Sir James Grant, Ottawa, president of the Canadian Tuberculosis Association, is authority for the statement that recommendations have been made to the Canadian Government to deal with immigrants affected with consumption along similar lines as inaugurated by the United States Immigration Department.

Toronto University Items.—Convocation of all departments took place on the afternoon of June 7. Dr. R. A. Reeve, dean of the medical faculty and president of the Alumni Association, presided. The honorary degree of LL.D. was conferred on his excellency, the Governor General, Lord Minto, and also on Dr. Louis Frechette, the French-Canadian poet.

Montreal General Hospital.—The report for the month of May of the Montreal General Hospital shows that there were 19 cases of typhoid fever in the hospital for the month, which is unusually large for that month of the year. Two hundred and sixty-eight patients were admitted to the wards and 251 were discharged. There were 20 deaths, and the daily average of patients was 160.

The progress of the medical department of the provincial university has been so great that it has become necessary that a much larger building shall be provided for its accommodation. It is expected that arrangements will soon be entered into by means of which, when the School of Practical Science addition is built, the medical department will have a handsome new building, which will be well equipped in the most modern manner.

Hospital Appointments.—Dr. F. Fleury has been appointed medical superintendent of the Notre Dame Hospital, Montreal, to replace Dr. A. Ethier, who has resigned to pursue post-graduate work in Europe. He will have associated with him as house surgeons, Drs. A. Brosseau, V. Chapdelaine, A. St. Pierre and J. Edouard Grenier. Dr. Ethier, who leaves the hospital, occupied the position for five years.

Women Doctors Recognized.—Two Toronto hospitals have this year recognized the claims of the lady medicos when making the annual appointments on their resident staffs; and it is likely that hereafter the Toronto General and the Victoria Hospital for Sick Children will have a lady physician constantly on their staffs. The question has been raised whether they are to occupy the usual quarters provided for the house surgeons.

Medical Students in South Africa.—Those medical students who were serving in South Africa were all granted relief from their examinations by the Ontario Medical Council. Two received their matriculation, two their primary examination, and six were registered as practitioners. Some discussion arose on this point, when Dean Geikie, of Trinity Medical College, declared emphatically that if this simple measure of justice was not done to these men who had taken their lives in their hands out of patriotism, he would no longer occupy a seat in that Council.

New Canadian Society.—The graduates of Queen's University (Kingston, Ontario) in New York have organized a new Canadian society to be known as the New York Society of Graduates and Alumni of Queen's University of Kingston. President, Dr. James Douglas; first vice-president, Dr. Farquhar Ferguson; second vice-president, Dr. John R. Shannon; executive committee, Drs. L. H. Gardiner, W. G. Fraleck, and Mr. D. C. Portecus and R. S. O'Loughlin. The society will act conjointly with the New York Society of McGill University and the Canadian Society of that city in sending a representative to present an address to the Duke of Cornwall and York on the occasion of his visit to this country.

Finances and Officers of Ontario Medical Council.—The report of the finance committee recommended that the salary of Dr. H. W. Aikins be $500 for treasurer for the ensuing year. The treasurer estimated his revenue for the coming year at $25,136, comprising cash in bank, $3,936; assessment dues, $4,400; registration fees, $1,800; rents, $4,000; fees from professional examinations, $11,000. The estimated expenditures is $17,885, leaving an estimated balance of $2,751. Officers elected: President, Dr. L. Brock, Guelph; vice-president, Dr. Emory, Toronto; registrar, Dr. R. A. Pyne, Toronto; treasurer, Dr. Wilberforce Aikins, Toronto; auditor, Dr. Patton, Toronto.

Sir William Hingston has been distinctly honored by the Pope for charitable work and zeal for the church. "The Papal Cross" has been bestowed "for the Church and Pontiff." His Grace, Archbishop Bruchesi, conveyed to Sir William the gift of the head of the church, which was accompanied by the following letter from Cardinal Rampolla, the Papal Secretary of State: "His Holiness has deigned to accord the Cross from the Church and Pontiff to Sir William Hingston as a recognition of his devotion and fidelity to the church and its supreme head. The Cardinal Secretary of State has the pleasure to transmit him the diploma and the said cross, in order that he may wear it on his breast, as it is customary to do with other decorations."

FOREIGN.

London's Bedlam to Move.—For nearly a hundred years Bethlehem Hospital for the Insane, colloquially corrupted into "Bedlam," as early as the 13th century, has occupied its present site in Southwark, which it has now outgrown, and will be converted into a park. This will be its third move in the many centuries of its existence.

Royal Condition Wrongly Diagnosed.—To clear himself of a charge of having made a wrong diagnosis when called to see Queen Draga of Servia, Dr. Caulet, of Paris, has published in *La Semaine Médicale* the full correspondence which passed between him and the Servian court, and gave in detail the queen's symptoms, which simulated pregnancy.

Thomas Bond, F.R.C.S. England, 1866, eminent as a surgeon and analyst, committed suicide in London, June 6, by throwing himself from a third-story window of his residence. He had been suffering from melancholia for about two years. For many years Dr. Bond was analyst to the Home Department and lecturer on forensic medicine in Westminster Hospital.

LONDON LETTER.

A Snub to the Profession.

Some time ago a number of gentlemen, including Mr. Arthur Chamberlain, brother of the Colonial Secretary, founded the "Birmingham Consultative Institution," the object of which was stated to be to secure for the working classes of the city the advantages of consultation with eminent practitioners, which could at present be obtained only by fees beyond their means. A fee for consultation of $2.50 was fixed, and a certain Dr. Irvine was appointed. The medical profession of Birmingham immediately took up arms against the Institution, which they regarded as simply a means of advertising the physician in question and obtaining for him very comfortable fees. They pointed out that the Birmingham consultants were perfectly satisfied already to see patients at this reduced fee if their position was such that they could not pay more. Dr. Irvine was brought before the General Medical Council and convicted of unprofessional conduct in allowing himself to be advertised by the Institution. The Council decided not to immediately remove his name from the medical registrar, but to give him six months to think over his position. As a result he resigned his position in connection with the Institution. No sooner had he done so than he was appointed one of His Majesty's Inspectors of Schools. In the House of Commons a member called attention to the matter, and insisted that he should not have received the appointment with such a charge hanging over his head: No doubt this appointment must have been brought about by the influence of the Colonial Secretary's brother. In defending it, the Colonial Secretary said that Dr. Irvine had only infringed the "trades-union rule" of the profession against advertising, and that as there was no accusation against his private character the appointment was not improper. Sir Walter Foster, a medical member of Parliament, submitted that on public grounds no person in such a position as this doctor awaiting the judgment of the General Medical Council on a charge of which he had been found guilty should have been appointed to a high public office. This stigmatizing as a "trades-union rule" the injunction against medical advertising, an injunction which really is in the interest of the public more than the profession, and this cynical contempt by the Government for their own court, the decision of which on purely professional matters the brightest judges have declared to be unalterable, may seem extraordinary. It is to be accounted for by two facts: The profession is unorganized and commands no vote of which governments are afraid, and therefore is a political cypher; secondly, as has been before explained in THE JOURNAL, science commands no general respect in this country.

Sweets Sparkling with Glass.

A physician in Bedford has forwarded to the *Lancet* for analysis some sweets which he thought were the cause of severe abdominal pain in children under his care. The *Lancet* analysis disclosed the fact that the sweets were coated with small particles of glass, which were no doubt the cause of the symptoms. Powdered glass is a strong irritant poison. Hence this is a very serious form of contamination. The makers of the sweets have not been traced. This is a duty which the local authorities should perform.

A Ladies' Public Health Society.

The Ladies' Public Health Society of Manchester and Salford, which has been in existence some years, represents a form of activity as unusual as it is useful. Its object is to bring sanitary knowledge into the houses of the poorest. Its scope has been greatly enlarged by connection with the sanitary committees of Manchester and Salford. The working-class neighborhoods are divided into districts containing 1000 to 2000 cottages. Each has a lady superintendent and a "health visitor." The latter is a working woman who lives in the district and knows the life of the poor from experience. She visits all the cottages, makes friends with the people, and gives them hints and advice on all sorts of subjects, and has her eyes open for defects of drainage, overcrowding, sickness, etc., all of which she reports on a form that is posted daily to the medical officer. She pays special attention to infants, and always carries a leaflet on infant-feeding, which she does not simply hand over to an ignorant young mother to be probably thrown into the fire, but reads and explains it. Such advice is much required, for there is no limit to the ignorance of these young women, who have, perhaps, spent all their unmarried life in a factory. She is often the means of persuading families to exchange a small and unsanitary cottage for something better as the children grow up. She can recommend a house, a caretaker, a charwoman, or whatever else may be needed to meet the wants of each case. She can show how to make a bed, wash a baby, apply a poultice, or cut out a garment. The health visitors have no special training, but are women of strong character and sound practical experience. The lady superintendent is a sort of power behind the health visitor. She can supply the theory on which the practice is founded. She is consulted when difficulty arises and takes the whole financial responsibility. She also holds weekly meetings in the district, and by dint of constant repetition makes a large body of women acquainted with the laws of health. These in their turn influence their neighbors. For nearly two years the Manchester health visitors have been systematically visiting and reporting on cases of consumption to the medical officer of health and spreading the knowledge of the nature of consumption and the means of preventing it.

Acute Suppuration of the Thyroid Gland.

At the Clinical Society, Mr. R. J. Godlee read a paper on a case of this disease. A woman, aged 20, was attacked with typhoid fever, at the end of October. On November 20th a swelling formed at the lower part of the neck and was followed by a patchy, irritable rash all over the body, which disappeared on the 26th. The swelling rapidly enlarged and the temperature rose, reaching 104.4 on the 28th, and 105.4 on the 29th. When the patient was first seen the swelling occupied the middle line and extended somewhat to the right, but much further to the left. There was dysphagia and the surrounding structures did not move freely over the swelling. The mass did not move on deglutition. An incision was made in the middle line and a large cavity was reached at a depth of half an inch in the gland. It contained a reddish-brown sticky fluid mixed with pus and much friable material. A drainage tube was inserted and recovery was uneventful. Mr. Godlee discussed the different varieties of thyroid inflammation: 1, idiopathic with spontaneous subsidence; 2, epidemic, as described by French military surgeons, which is of the nature of an acute specific fever; 3, the septic form, of which his case was an example. Acute suppurative thyroiditis has

been recorded in connection with many infectious states, such as rheumatic fever (8 cases), malaria (3 cases), typhoid fever (2 cases), diphtheria (2 cases), erysipelas, pneumonia, ozena, compound fracture, and erythema nodosum. Of 28 recorded cases, suppuration occurred in 15, and in 6 others the point is not mentioned. In the rheumatic cases suppuration did not occur. Suppurative thyroiditis appears to be especially common in connection with typhoid fever. The proper treatment is immediate opening and drainage. It is not described among the complications in the text-books, as it should be.

Correspondence.

Sulphuric Ether in Asphyxia Neonatorum.

CHINOOK, MONT., June 11, 1901.

To the Editor:—In a recent case of asphyxia neonatorum, caused by delay in delivery and the use of forceps, I worked faithfully for one hour, using artificial respiration and external stimulants such as rubbing, slapping, hot and cold water, but with poor success, as the heart became more feeble, cyanosis increased, and it seemed altogether a hopeless case. I injected 5 minims sulphuric ether into the thigh. In two or three minutes circulation was fully restored, child was breathing naturally, and it has since done well. Having never seen any note of ether being used in these cases, I send you this, thinking it might possibly be of some value.

Respectfully, C. F. HOPKINS, M.D.

Inherited Tendency to Appendicitis.

CINCINNATI, OHIO, June 15, 1901.

To the Editor:—I am trying to establish the fact, which I believe from my own personal observation to be true—see *Lancet-Clinic*, June 8— of an inherited tendency or predisposition to appendicitis. If the readers of THE JOURNAL will kindly look into the family history of their cases and report to me, I will be under very many obligations.

Respectfully, W. H. DEWITT, M.D.

61 Auburndale Place.

Association News.

THE ST. PAUL MEETING AS VIEWED BY OUR CONFRERES.

From the New York Medical Journal.

The fifty-second annual meeting of the AMERICAN MEDICAL ASSOCIATION, held in St. Paul last week, was memorable from more than one point of view. Those of our readers who were not present will have deduced this from the President's address and from the action taken on the plan of reorganization. The reorganization, tantamount to a new constitution, will, as we have before remarked, make the general sessions far more amenable than before to parliamentary rules of procedure and better able to arrive speedily at a correct understanding of the merits of such questions as may come before the Association. Many of the men who most thoroughly recognized all this before the meeting were fearful that, nevertheless, the scheme would fail of adoption this year, although sure to be sanctioned eventually. The result shows once more that we should never despair of a good cause.

The choice of a New York man as President for the ensuing year and of a place in the State of New York for holding the next meeting may doubtless be taken to foreshadow the re-establishment of the most cordial relations between the National body and the profession of the state. Now that the presidency has been conferred upon one of their number, the physicians of the State of New York should make no distinction in their own minds as to whether he represents the old or the new state organization, for it is certain that no thought of discrimination on that score governed the nominating committee. It is to be hoped, indeed, that there will soon be no factions, and that the two state organizations will be blended into one.

The next meeting will be comfortably bestowed, for the capacity of Saratoga hotels is very great. But the entertainment of the members is to be thought of as well as their lodging. This the profession of the whole state must take upon itself. It would be wrong to leave the burden to be borne by Saratoga alone after the superb hospitality of the twin cities of St. Paul and Minneapolis. We think we can promise our colleagues in all parts of the country such an effort as the State of New York can make to approach the standard of that hospitality.

From the Medical News.

The recent well-attended meeting of the AMERICAN MEDICAL ASSOCIATION at St. Paul shows better, perhaps, than did meetings held at points more convenient for larger numbers of medical men how deep is the profession's interest in the work of the National organization. The Association has in these latter years risen out of a phase of quasi-provincialism to be thoroughly representative of the best elements of scientific and professional progress in American medicine. This state of affairs is most encouraging. At the beginning of the new century the clearest truth in practical life is that assured success is the outcome only of thorough organization. Many problems await solution in the social and legal relations of the medical practitioner to his clients and to public health. These can not be definitely and properly solved unless the weight of a united medical profession can be brought to bear upon legislation and public opinion.

The most noteworthy feature of the last meeting was the liberal attitude of the President and members of the Association toward that portion of the New York medical body whose defection ten years ago did so much to delay the unification of the profession in this country. The recently adopted opinions are, however, only a result of a just survey of the motives and conditions that prompted the attitude assumed by the New York Society before its enforced withdrawal. The President's acknowledgment of the right-mindedness of the motives that formed the basis for the action of the representatives of the New York medical profession must go far to repair the breach that still exists.

The selection of a New Yorker as President of the AMERICAN MEDICAL ASSOCIATION and the acceptance of the invitation to hold the next annual meeting at Saratoga must be taken as indices of a successful movement that is to give back to the Empire State her long-lost influence in the councils of the National body of physicians. The New York State Medical Association, thanks to the unsparing efforts of certain members, has been growing handsomely in numbers and influence in recent years. The auspicious circumstance of having the annual meeting of the National Association to inspire to renewed efforts should add greatly to its membership and prestige. With the recently adopted scheme of reorganization of the State and National associations, to cement the union of all the societies composing them and to make their influence available for professional purposes, there seems no reason to doubt that the day of a really united medical profession is at hand.

The new plan of government adopted by the National Association promises by its thoroughly representative character to do away with the petty sectional politics that have sometimes proved a jarring element at annual meetings. The proposed reformation of the code, already under way, encourages the hope that a stumbling-block in the way of certain serious minds as regards membership in the Association will be soon removed. For many years past some of the rules of conduct embodied in the old code have, if taken in their strictly literal signification, been a dead letter. Since they have proved a source of disunion, it must be a cause of congratulation on all sides that they are to be modified to meet the change of circumstances and evolution of conditions which make them a relic of the past.

The recent St. Paul meeting was especially noteworthy for the social relaxation it afforded attending members of the Association. Every year the social gatherings take on a more

friendly character and the good effected is quite as much due to the familiar fellowship that reveals the character of co-workers in the same field as to the scientific discussions that mirror recent practical advances in the various specialties. The promise may confidently be held out that visitors to the meeting at Saratoga next year will meet with as pleasant a welcome and will be greeted with social features as attractive and gratifying as any ever provided. That the AMERICAN MEDICAL ASSOCIATION is about to enter into the fullness of its heritage as a thorough representative of the whole medical profession of the country now seems assured.

From the Boston Medical and Surgical Journal.

At the meeting of the AMERICAN MEDICAL ASSOCIATION in 1900 a Committee on Organization was appointed. This committee presented its report at the recent meeting of the Association at St. Paul, and the report, including the revised Constitution and By-Laws, on motion of Dr. Harris, of New York, was adopted by a large majority. The report itself is a lengthy document, for the full text of which and for the report on revision of the Constitution and By-Laws our readers are referred to THE JOURNAL of the Association, the issues of May 11 and June 8. The necessity for these changes has long been apparent. Under the old conditions the transaction of business was either difficult or impossible, or so easy that it was undesirable. The Association itself had not the weight in professional and public affairs to which its members and wide representation should entitle it. The Association has now provided itself with a more suitable machinery with which to work, but the results attained must depend in large measure upon the cordial co-operation of the State and county societies, a co-operation which we hope may in due time be forthcoming.

From American Medicine.

The St. Paul meeting of the AMERICAN MEDICAL ASSOCIATION was the best that has ever been held. We know that the elation following each annual meeting makes such praise habitual, but there is a unanimity and emphasis this year that we have never seen equaled. This feeling is undoubtedly due to the acceptance of the new Constitution and By-Laws prepared by the Committee on Reorganization, and to the limitation of the number of papers on the programs, whereby there was gained more time for the consideration of each, with a resultant improvement of the entire scientific work. There was a thorough leveling-up of the standards most gratifying, and this is better than the straining after brilliant discovery or incomplete research. Those who attended the section-meetings came away with a consciousness that much indefiniteness had been cleared up and many perplexing questions, if not settled, at least put in the way of decision. There was everywhere manifest the desire to limit the social features, and the politics and discussions of the general sessions, and to regret that the section-work had to be interfered with. Under the new order of proceedings next year this will be done, as after the first day the general sessions will not interrupt section-work. The profession of St. Paul and Minneapolis greeted the Association members with a hospitality and perfection of arrangements which insured the gratitude of every visitor.

The reorganization of the AMERICAN MEDICAL ASSOCIATION, according to the recommendations of the committee, is a cause for profound gratification. The long labors of the committee, motived by the sincerest desire to put the Association upon a basis that would insure reform and progress, ended in a wise general plan and a perfection of detail that disarmed criticism and reduced opposition to a minimum. Before the session had convened that so quickly adopted the new Constitution and By-Laws, hardly anyone supposed the body would have so soon found its mind and heart at once, but when the strongest opponents, feeling that the inevitable was upon them, seconded the motion for adoption, there were few negative votes left. The chief advantage of the new business arrangements is that the real legislative work of the Association will hereafter be confined to a compact body of about 150 delegates, elected for that purpose by the local state organizations. The Association will thus get its work done, the legislation and business by men selected directly as representatives and sitting uninterruptedly for those ends, while the scientific programs will be carried out by those who come to the meetings with such objects in mind. Dr. Reed has been an exceptionally able and effective President, and under him has been instituted a reform which will, we prophesy, vastly increase the power and growth of the Association.

From St. Louis Medical Review.

The delegates to the National meeting, who have returned, bring back good tidings. Of their impressions the strongest is a sense of the importance to which the Association has attained and its certain prospect of becoming an enormous power for good to the medical profession. The bickerings of by-gone years have been laid aside in the desire to build up and organize an authoritative congress, which shall wield its influence for the glory of no man, but for the welfare of all. The scientific program was extraordinarily interesting and valuable. A noteworthy feature was the accuracy with which matters medical were reported—rhetoric and flights of fancy gave way to facts. Eighteen hundred members were there for business and it was a business session in every particular. The chief innovation in reorganizing the Association was the establishment of the House of Delegates, which shall be the legislative and fiscal body. Each state and territorial society shall be permitted to send one delegate for every 500 or fraction of resident regular members, but the total membership of the House shall not exceed 150. Members of the House will be elected every two years and to be eligible shall have been members of the Association for at least two years. The House of Delegates will elect the president, trustees and other officers of the Association, but no member of the House shall be eligible for such office. The General Sessions will include all registered members of the Association, who shall have equal rights in discussion and voting upon pending questions. As heretofore, it will be the scientific body. These changes, which were recommended by the Committee on Reorganization, were unanimously adopted and the committee given a vote of thanks. The Journal of the A. M. A. is in a very prosperous condition, and its editor, Dr. George H. Simmons, received a vote of thanks. It is expected that a general reorganization of the state and county societies will now follow to the end that a homogenous, coherent, united and authoritative organization may be effected. This great work should meet with hearty support; the revival is here and the most should be made of it.

From Philadelphia Medical Journal.

The annual meeting of the American Medical Association should always be of such importance as to be an object of interest and obstruction to every medical man in the United States. The session just held at St. Paul was of special interest and of historical importance because the Association succeeded in reorganizing itself. This was a most significant feat, for it is one which has failed of accomplishment several times heretofore largely for lack of time. This reorganization was absolutely essential as a preliminary to a successful career for the Association as a real representative national gathering. Before this was accomplished it could scarcely be said that the Association did or could properly represent anything but itself. In fact, it was simply a huge medical society. It is now constituted with a House of Delegates, which represents the State Societies and by them the general profession, and which has a definite, determinative and effective organization. This Chamber can represent a policy, pursue a course, transact a measure, and attend to business in a way that was formerly impossible in the loosely organized association at large. If there is any virtue or force in representative government (and who doubts that there is?) the Association will now reap the benefits. It is in a position as never before to influence public opinion and to act upon legislation, but its best friends should not forget that only that form of government "which is best administered is best." The new House of Delegates can soon sink to the level of some of the State Legislatures if it is run in the same way.

It is rather too early to judge of the literary and scientific quality of the meeting. It will be time enough to do that when the original papers are put into cold type. These papers, however, were evidently of very uneven merit, as is apt to be the case in a large and miscellaneous gathering. Perhaps one of the functions of the new House of Delegates will be to keep a jealous eye open for a high standard of scientific work.

The Association put itself squarely on record in favor of some common-sense legislation, and declined to make a declaration on the subject of military morality in the Philippines when importuned to do so by some elderly parties who probably were not very well informed on this delicate subject.

The revision of the code of ethics was not favored by the majority present and was voted down. This will please the conservative members of the profession everywhere, but will probably not discourage the revisionists, who seem to be in an eternal mood of hopefulness and determination.

From the social and personal standpoint, the meeting seems to have been fairly successful. We have heard some complaints about lack of accommodations and about the great distances that separated the meeting places of the various sections. Such things, we suppose, are inevitable when the meetings are largely attended and are held in smaller cities and towns. The city of St. Paul distinguished itself for courtesy to the strangers within its gates.

General Committee on Organization.

The name of Dr. G. R. Dean, of Spartanburg, N. C., should have appeared among the signatures to the report of the General Committee on Organization, on page 1643 of THE JOURNAL of June 8.

Section on Ophthalmology.

TUESDAY, JUNE 4—AFTERNOON SESSION.

The Section was called to order Tuesday, June 4, at 2 p. m., by the Chairman, Dr. J. A. Lippincott, of Pittsburg.

Dr. H. Gifford, of the Executive Committee, being absent, Dr. Leartus Connor was appointed in his stead.

Address of Chairman was read by Dr. J. A. Lippincott, of Pittsburg.

Dr. A. E. Davis, of New York, was invited to participate in the proceedings of the Section.

A paper on "Treatment of Strabismus; Measures Other than Operative," was read by Dr. Edward Jackson, of Denver.

A paper on "Treatment of Strabismus; Operative Measures," was read by Dr. C. F. Clark, of Columbus.

A paper on "Strabismus; Its Treatment," was read by Dr. A. E. Davis, of New York.

A paper on "The Cosmetic and Visual Results in Squint" was read by Dr. J. M. Ray, of Louisville.

These papers were discussed by Drs. C. M. Culver, of Albany; Frank Allport, of Chicago; F. C. Todd, of Minneapolis; G. C. Savage, of Nashville; A. R. Baker, of Cleveland; J. L. Thompson, of Indianapolis; F. C. Hotz, of Chicago; Don Campbell, of Detroit; A. B. Hale, of Chicago; W. H. Wilder, of Chicago; G. M. Black, of Denver; A. E. Prince, of Springfield; A. A. Hubbell, of Buffalo; C. A. Veasey, of Philadelphia, and H. Woods, Jr., of Baltimore.

A paper on "Concerning the Check Ligament" was read by Dr. J. E. Colburn, of Chicago.

The Section then adjourned.

WEDNESDAY, JUNE 5—MORNING SESSION.

Fiftieth anniversary of the invention of the ophthalmoscope. Exhibit of ophthalmoscopes and ophthalmoscopic literature.

"An Address on the Origin and Development of the Instrument, Together with a Description of the Historic Exhibit of Ophthalmoscopes and Publications on Ophthalmoscopy, Prepared for this Meeting," was read by Dr. H. Friedenwald, of Baltimore.

An "Address on the Life of Helmholtz" was read by Dr. Casey Wood, of Chicago.

A vote of thanks was extended by the Section to Drs. Friedenwald and Wood for their work in preparing the exhibit of ophthalmoscopes.

Dr. W. H. Wilder moved that a committee of three be appointed to try to arrange to have a permanent exhibit of ophthalmoscopes in the office of the Surgeon-General at Washington. Carried. The Chairman appointed Drs. Friedenwald, Wood and Wilder.

A paper on "Tarsadenitis Meibomica" was read by Dr. M. F. Weymann, of St. Joseph, Mo.

A paper on "A Case of Retroflexion of the Iris" was read by Dr. A. A. Hubbell, of Buffalo.

The Section then adjourned.

WEDNESDAY, JUNE 5—AFTERNOON SESSION.

The Executive Committee, acting as the Nominating Committee, reported the following: For Chairman, Dr. Frank Allport, of Chicago; for Secretary, Dr. C. A. Veasey, of Philadelphia.

Dr. Edward Jackson moved that the Executive Committee nominate six members of the Section from whom two should be chosen to represent the Section in the House of Delegates. Carried.

A paper on the "Treatment of Heterophoria; Non-Surgical Measures," was read by Dr. George M. Gould, of Philadelphia.

A paper on the "Treatment of Heterophoria; Surgical Treatment," was read by Dr. G. C. Savage, of Nashville.

These papers were discussed by Drs. S. D. Risley, of Philadelphia; M. F. Weymann, of St. Joseph; J. E. Colburn, of Chicago; Frank Allport, of Chicago; J. L. Thompson, of Indianapolis; C. H. Williams, of Boston; C. F. Clark, of Columbus; H. Woods, Jr., of Baltimore; Leartus Connor, of Detroit; D. B. Wylie, of Milwaukee; M. J. Sherman, of Cleveland; D. Campbell, of Detroit; A. E. Davis, of New York; H. Harlan, of Baltimore; W. B. Pineo, of Minneapolis; and J. S. Barnes, of Milwaukee.

A paper on a "Table of Paralyses of Ocular Muscles" was read by Dr. H. M. Starkey, of Chicago. This paper was discussed by Drs. F. C. Hotz, of Chicago; W. H. Wilder, of Chicago; M. F. Weymann, of St. Joseph, and Edward Jackson, of Denver.

A paper on "The Extraction of Hard Cataract Without Iridectomy" was read by Dr. S. D. Risley, of Philadelphia.

A paper on "The Spontaneous Clearing of a Cataractous Lens" was read by Dr. Hiram Woods, Jr., of Baltimore.

These papers were discussed by Drs. F. C. Hotz, of Chicago; C. F. Clark, of Columbus; A. E. Prince, of Springfield; Edward Jackson, of Denver; J. L. Thompson, of Indianapolis.

The Section then adjourned.

THURSDAY, JUNE 6—MORNING SESSION.

The Executive Committee placed in nomination the following six names from which to choose two delegates to the House of Delegates: J. A. Lippincott, H. V. Würdemann, C. A. Wood, G. E. de Schweinitz, Edward Jackson and S. D. Risley.

The ballot resulted in the election of Drs. J. A. Lippincott, of Pittsburg, and H. V. Würdemann, of Milwaukee.

A paper on the "Economic Limitations of the Visual Acuity in the Various Trades and Professions" was read by Dr. H. V. Würdemann, of Milwaukee.

A paper on the "Further Report on the Visual and Aural Qualifications of Transportation Employees" was read by Dr. Frank Allport, of Chicago.

Dr. Allport also submitted the following as a Report of the Railroad Committee of the Ophthalmological Section on Examination of Railway Employees:

REPORT OF THE RAILROAD COMMITTEE.

Mr. Chairman and Members of the Ophthalmological Section of the American Medical Association:

Your Committee, appointed three years ago, with a view of framing resolutions for the regulation of the eye and ear requirements of transportation employees, was unable, two years ago, to bring in a unanimous report. The Committee was, therefore, requested to retain its membership and endeavor to report at the following meeting. Meanwhile the Committee was lead to believe that action upon this subject would be taken one year ago by the International Medical Congress meeting in Paris. It was, therefore, deemed wise to wait until the Committee of the International Congress submitted its report, feeling that valuable ideas might be therein contained, which would enable us to improve the character of our own work. The Committee, therefore, did not report at the City of Columbus, and since then, although the Chairman of this Committee has endeavored with all possible assiduity to ascertain something concerning the nature of the work accomplished along these lines by the International Congress, he has been absolutely unable, up to the present time, although inquiry has been made along every possible avenue, to ascertain whether any work of this nature was accomplished or not. It, therefore, seemed useless to wait for the action of our European confrères, believing that it is not necessary for a country which leads all other countries in its transportation facilities to await the action of other nations. Your Committee, therefore, begs leave to submit to the Section the following resolutions, which have been unanimously adopted, and which, it is hoped, will also be adopted by the American Medical Association, and then correctly placed before the proper railroad authorities of North America.

This work should be superintended by this Section.

SECTION 1. The essential principle to be advocated is that railroad corporations shall require a scientific and correct examination of the eyes and ears of those employees at all to be concerned with the active operating of trains, or in giving or receiving signals.

SECTION 2. Such *primary* examinations should, whenever possible, be made by regularly appointed eye and ear surgeons, and this point is emphatically urged, especially as the expense of a first examination may always be borne by the applicant; but if such a course is not deemed expedient, the company's surgeon, aided by his medical assistants, might conduct them, with the understanding that all doubtful cases shall be sent to a regularly appointed eye and ear surgeon.

SECTION 3. There shall be two general standards of visual and aural requirements, viz., those for new men hoping to enter the service, and to be actively engaged in the operation of trains, and in giving and receiving signals; and, secondly, those men engaged in similar work, who have been uninterruptedly in a company's service for five years, and who have, therefore, a right to be called old employees.

SECTION 4. New men shall be required to possess perfect color sense. They shall also have a vision of 20/20 in each eye, without glasses, and have healthy eyes, and not over one diopter of hypermetropia. They shall also hear the whispered voice at 20 feet in a quiet room, and have healthy ears.

SECTION 5. For the purposes of graduated requirements old employees shall be divided into two classes as follows:

Class A—Engineers, firemen, conductors, brakemen, switchmen, signalmen, switch tenders, and engine dispatchers.

Class B—Track foremen, bridge foremen, crossing flagmen, bridge tenders, gatemen, train baggagemen, telegraph operators, station agents and station baggagemen.

Employees enumerated in Class A shall not be retained in such positions if vision sinks below 20/30 in one eye and 20/40 in the other, or if the whispered voice can not be heard in a quiet room at 15 feet by one ear and 10 feet by the other. Employees enumerated in Class B shall not be retained in such positions if vision sinks below 20/40 in one eye and 20/50 in the other, or if the whispered voice can not be heard in a quiet room at 10 feet by both ears. Employees, and especially engineers and firemen enumerated in Class A, must reach the visual standard without glasses, and will not be allowed to wear distance glasses when on duty. Employees

enumerated in Class B may reach the visual standard with glasses, and will be allowed to wear glasses when on duty, and will be required to do so if the wearing of glasses is necessary to bring vision up to the proper standard, and shall always be required to carry an extra pair of glasses, when on duty in case of accident to one pair. All employees shall have perfect color sense.

SECTION 6. Re-examinations shall be made of all men every three years, and after a severe illness, or accident, or any occurrence which seems to cast doubt on the visual and aural capacity of an individual. Re-examinations shall also be made more frequently on men known to be excessive users of tobacco, or to be suffering from syphilis, albuminuria, diabetes, or acute or chronic eye and ear diseases. Men shall always be re-examined before promotion.

SECTION 7. Men known to be excessive users of liquor shall not receive employment. Respectfully submitted.

FRANK ALLPORT, M.D., Chairman of Committee.

These papers were discussed by Drs. L. H. Taylor, of Wilkesbarre; C. F. Clark, of Columbus; H. B. Young, of Burlington; C. H. Williams, of Boston; A. B. Hale, of Chicago; M. F. Weymann, of St. Joseph; F. C. Hotz, of Chicago, and L. Connor, of Detroit.

Dr. Edward Jackson moved the adoption of the Report. Carried.

Dr. Edward Jackson moved that the incoming Chairman appoint a committee to bring the report before the Association in 1902 for its adoption. Carried.

The Section then adjourned.

THURSDAY, JUNE 6—AFTERNOON SESSION.

A paper on "Mules' Operation, with Cases," was read by Dr. F. C. Todd, of Minneapolis. This paper was discussed by Drs. Frank Allport, of Chicago; G. M. Black, of Denver; H. Friedenwald, of Boston; and H. Moulton, of Fort Smith.

A paper on "Mirror Writing and Inverted Vision" was read by Dr. A. B. Hale, of Chicago. This paper was discussed by Drs. G. C. Savage, of Nashville, and M. F. Weymann, of St. Joseph.

A paper on the "Report of Two Cases of Orbital Surgery" was read by Dr. Adeline Portman, of Washington. This paper was discussed by Dr. M. F. Weymann, of St. Joseph.

A paper on "Enucleation in Two Minutes, with Demonstration," was read by Dr. A. T. Mitchell, of Vicksburg. This paper was discussed by Dr. H. Woods, Jr., of Baltimore.

A paper on the "Newer Pathology of the Retina, with Special Reference to the Changes Produced in the Ganglion Cells by Certain Toxic Agents" was read by Dr. H. Friedenwald, of Baltimore.

A paper on "Atrophy of the Retina" was read by Dr. D. S. Reynolds, of Louisville.

A paper on a "Case of Blindness Due to Drinking Bay Rum Compared with Reported Cases Due to Methyl Alcohol and Jamaica Ginger" was read by Dr. H. Moulton, of Fort Smith.

These papers were discussed by Drs. J. M. Ray, of Louisville; H. Woods, Jr., of Baltimore; A. B. Hale, of Chicago; C. A. Wood, of Chicago; H. Harlan, of Baltimore, and R. W. Miller, of Los Angeles.

A paper on "Complete Recovery from Double Neuroretinitis, Clinically Resembling Albuminuric Retinitis, in a Case of Prolonged Hematuria, with Symptoms of Bright's Disease," was read by Dr. C. A. Veasey, of Philadelphia. This paper was discussed by Drs. W. H. Wilder, of Chicago; J. M. Ray, of Louisville; H. Woods, Jr., of Baltimore; and E. C. Ellett, of Memphis.

A paper on the "Value of Excision of the Superior Cervical Ganglion of the Sympathetic in Certain Eye Diseases" was read by Dr. G. F. Suker, of Toledo. This paper was discussed by Drs. C. A. Wood, of Chicago; G. M. Black, of Denver; W. H. Wilder, of Chicago, and C. F. Clark, of Columbus.

The Section then adjourned.

FRIDAY, JUNE 7—MORNING SESSION.

A paper on "Herpes Zoster Ophthalmicus, with Brief Report of Five Cases," was read by Dr. W. C. Bane, of Denver. This paper was discussed by Drs. Edward Jackson, of Denver; H. M. Starkey, of Chicago; S. D. Risley, of Philadelphia, and Dr. Freeman.

A paper on the "Corneal Lesions of Acquired Syphilis" was read by Dr. Wm. H. Wilder, of Chicago. This paper was discussed by Drs. S. D. Risley, of Philadelphia; Edward Jackson, of Denver, and J. A. Lippincott, of Pittsburg.

A paper on "Lachrymal Stenosis in Infants, and Its Treatment," was read by Dr. Dunbar Roy, of Atlanta. This paper was discussed by Drs. G. C. Savage, of Nashville; S. D. Risley, of Philadelphia; L. H. Taylor, of Wilkesbarre; R. W. Miller, of Los Angeles, and G. M. Black, of Denver.

Dr. G. C. Savage moved that it be recommended to the General Secretary of the Association that the expenses of the Committee on the Ophthalmoscope Exhibit, amounting to $25.24, and the legitimate expenses of the Secretary of the Section, be paid by the Association.

A paper on the "Metamorphopsia Varians, with a Report of Three Cases," was read by Dr. Wm. H. Dudley, of Easton, Pa. This paper was discussed by Drs. S. D. Risley, of Philadelphia; G. C. Savage, of Nashville, and J. A. Lippincott.

A paper on the "Injuries of the Choroid" was read by Dr. E. O. Sisson, of Keokuk. This paper was discussed by Dr. Edward Jackson, of Denver.

The Section then adjourned *sine die*.

Section on Diseases of Children.

TUESDAY, JUNE 4—AFTERNOON SESSION.

The meeting was called to order by the Chairman, Dr. Samuel W. Kelley, of Cleveland, in the Ryan Annex, at 2:30 p. m.

The Chairman delivered his address, which, on motion of Dr. Edwin Rosenthal, of Philadelphia, was referred to the Executive Committee.

The Chairman appointed Drs. Wahrer and A. C. Cotton as substitutes for Drs. Griffith and Tuley, on the Executive Committee.

Dr. J. B. Garber, of Dunkirk, Indiana, read a paper on "Measles." It was discussed by Drs. C. G. Slegle, of Minneapolis; Clifton Scott, of Des Moines; Brownell, of Oneonta, N. Y.; J. M. Postle, of Hinckley, Ill.; Charles Douglas, of Detroit; Dr. Barber, of Minneapolis; Dr. Townsend, of New Lisbon, Wis., and closed by Dr. Barber.

Dr. J. M. Postle, of Hinckley, Indiana, read a paper on "The Pathology of Pertussis." It was discussed by Drs. Douglas, of Detroit; Slegle, of Minneapolis, and J. M. Postle, of Hinckley, Wis.

A paper by Dr. J. W. Ballantyne, of Edinburgh, Scotland, entitled "The Ante-Natal Treatment of Hemaphilia," in the absence of the author, was read by the Secretary. It was discussed by Drs. Slegle, and Clifton Scott.

On motion of Dr. F. X. Walls, of Chicago, the Secretary was requested to convey to Dr. Ballantyne the thanks of the Section for his interesting and instructive paper.

Dr. Brownell, of Oneonta, N. Y., obtained permission to report an interesting case in which a child had exhibited an extraordinary craving for chewing and eating paint and painted woodwork and plaster. The case was discussed by Drs. Isaac A. Abt, of Chicago; Charles Douglas, of Detroit; Townsend, of New Lisbon, Wis.; and the discussion was closed by Dr. Brownell.

The Chairman appointed on the Nominating Committee the Executive Committee as at present constituted, viz.: with Drs. Cotton and Wahrer acting as substitutes.

WEDNESDAY, JUNE 5—MORNING SESSION.

The meeting was called to order by the Chairman at 9:30 a. m.

The special order on the scientific program was a Symposium on Typhoid Fever in Children. Dr. J. P. Crozer Griffith, of Philadelphia, was the author of the opening paper, which was entitled "Symptoms and Course of Typhoid Fever." The paper was read by the Chairman in the absence of the author.

Dr. John Lovett Morse, of Boston, was the author of the second paper on "The Diagnosis of Typhoid Fever in the Laboratory." In his absence this paper was read for him.

Dr. Edwin Rosenthal, of Philadelphia, presented a paper on "The Treatment of Temperature by Drugs."

Dr. Isaac A. Abt, of Chicago, reported "A Case of Multiple Gangrene associated with Cholangitis and Adenoma of the Liver, complicating Typhoid Fever."

Dr. Victor C. Vaughan, of Ann Arbor, Mich., opened the general discussion, which was continued by Drs. Clifton Scott, of Des Moines; Charles D. Douglas, of Detroit; T. F. Wood, of Angola, Ind.; Barber, of Minneapolis; Johnston, of Grand Rapids, Mich.; George D. Head, of Minneapolis, and Dr. Ewing, of Salt Lake City. The discussion was closed by Dr. Rosenthal.

The Chairman then read a communication from Dr. Robert H. Harvey, of Chicago, in which he accuses Dr. Edwin Rosenthal, of Philadelphia, of having published a certain paper for the purpose of advertising.

Dr. R. H. Harvey, of Chicago: I would be glad to present this paper to the Section.

Dr. A. C. Cotton: The time for the general session has arrived, and I do not think this is the place for personal disputes. I move that this matter be referred to a committee for investigation, the committee to report at any time the Chair sees fit. Seconded and carried unanimously. The Chair appointed on this committee Drs. Victor C. Vaughan, John C. Cook, C. D. Douglas.

WEDNESDAY, JUNE 5—AFTERNOON SESSION.

The Section reconvened, at the call of the Chairman, at 2:30 p. m.

Dr. A. C. Cotton, of Chicago, presented the report of the Nominating Committee, which was that the committee had selected Dr. H. M. McClanahan, of Omaha, for Chairman, and Dr. Frank X. Walls, of Chicago, for Secretary. On motion, the report was accepted, and the Secretary was instructed to cast an affirmative ballot for these nominees. This ballot having been cast, these gentlemen were declared elected.

Dr. Edwin Rosenthal, of Philadelphia, then read a paper on "Prolonged Intubations." It was discussed by Drs. B. R. Shurly, of Detroit; Golden, of Chicago; I. A. Abt, of Chicago; Louis Burckhardt, of Indianapolis, and discussion closed by Dr. Rosenthal.

Dr. John A. Robison, of Chicago, read a paper entitled, "Prevention of Pulmonary Tuberculosis in Predisposed Children." It was discussed by Drs. T. F. Wood, of Angola, Ind.; Warren, of Detroit; Work, of Elkhart, Ind.; Clifton Scott, of Des Moines; Slegle, of Minneapolis; Kelsey, of Minneapolis; and Golden, of Chicago, and the discussion was closed by Dr. Robison.

Dr. F. X. Walls read a paper on "Protracted Influenzal Pneumonia in Children." It was discussed by Drs. I. A. Abt, of Chicago; B. R. Shurly, of Detroit, Campbell, of Kansas; and the discussion was closed by Dr. Walls.

Dr. Carl Beck, of New York City, read a paper entitled "Congenital Malformations with Roentgen-Ray Demonstrations." No discussion.

Dr. Charles Douglas, of Detroit, read a paper on "Membranous Colitis in Infants."

Dr. W. W. Keen, of Philadelphia, reported "A Case of Ureteral Calculus in a Boy of Ten." It was discussed by Drs. Edwin Rosenthal, of Philadelphia; Leonard, of Philadelphia; S. W. Kelley, of Cleveland, Ohio; Clifton Scott, of Des Moines; and the discussion was closed by Dr. Keen.

THURSDAY, JUNE 6—MORNING SESSION.

The meeting was called to order by the Chairman at 9:40 a. m.

Dr. A. C. Cotton, Chicago, read a paper on "Diabetes Mellitus in Children." It was discussed by Dr. C. F. Wahrer, Fort Madison, Iowa, and the discussion was closed by Dr. Cotton.

Dr. Victor C. Vaughan, of Ann Arbor, Mich., presented the report of the Special Committee on Charges against Dr. Edwin Rosenthal, of Philadelphia:

Mr. Chairman and Members of the Section:

Gentlemen:—Your Committee, appointed for the purpose of deciding whether or not Dr. Edwin Rosenthal, Chairman of this Section in 1900, used his official position for the purpose of advertising the product of a certain drug firm, begs leave to submit the following brief statement of the facts presented in the case, and the finding determined upon:

Dr. Rosenthal's address as Chairman of this Section in 1900 contained a statement of the results obtained by the antitoxic treatment of diphtheria. In this statement he reported 6325 cases treated with the antitoxin of one manufacturer, and less than 900 cases treated with the products of all other manufacturers, and the results seemed to show the superiority of the product of the firm that furnished the largest number of cases. This firm has used

Dr. Rosenthal's address widely for advertising purposes.

Dr. Rosenthal assures us that this use of his paper was not only without his consent, but that the firm has continued this use of the address after receiving a protest from him.

Your Committee offers the following findings, which are respectfully submitted to the Section:

1. That the conclusions stated in Dr. Rosenthal's paper, being founded upon cases so unequal in number, are wholly without value in showing the relative merits of the products of the different manufacturers.

2. That Dr. Rosenthal, as Chairman of this Section, did use his official position to advertise a certain firm of manufacturers of antitoxin. Whether this improper use of his official position was intentional or unintentional, we can not decide from the evidence before us.

3. That this Section will look with disfavor upon any firm of manufacturing chemists which uses for advertising purposes any papers, parts of papers, or statements written or made verbally by any member of this Section in its proceedings.

Respectfully submitted,
VICTOR C. VAUGHAN,
CHARLES DOUGLAS,
JOHN C. COOK.

Dr. C. F. Wahrer, Fort Madison, Iowa, moved that this report be received and adopted. Seconded by Dr. Dodson, and carried unanimously.

Dr. Rosenthal asked that this report be printed in THE JOURNAL.

Dr. John R. Rathmell, Chattanooga, Tenn., sent a paper entitled "Albuminuria in Disease of the Kidneys in Infancy and Childhood," which was read by Dr. Walls in the absence of the author.

Dr. William Jepson, Sioux City, Iowa, presented a paper on "Congenital Cystic Kidney," together with the specimen.

Dr. A. L. Wolbarst, New York City, sent a paper on "Gonorrhea in Boys." The discussion was participated in by Drs. Edwin Rosenthal, Philadelphia; Clifton Scott, Des Moines; C. F. Wahrer, Fort Madison, Iowa; and A. C. Cotton, and Cook, Chicago.

THURSDAY, JUNE 6—AFTERNOON SESSION.

The Section reconvened at 2:15 p. m.

Dr. Clifton Scott, Des Moines, presented a paper entitled "The Prevention of Infection in Babes Born of Tuberculous Parents." It was discussed by Drs. Rosenthal, Philadelphia; Johnston, Grand Rapids; F. X. Walls, Chicago; I. A. Abt, Chicago; J. Noer, Stoughton, Wis.; John C. Cook, Chicago; C. F. Wahrer, Fort Madison, Iowa; E. F. Brush, Mount Vernon, N. Y., and Clifton Scott, Des Moines.

The next order was the Symposium on School Hygiene

Dr. Leigh K. Baker, of Cleveland, sent a paper entitled "The Introduction and Management of School Hygiene," which was read, in his absence, by Dr. Warren.

Dr. John Madison Taylor, Philadelphia, sent a paper on "Physical Culture in Children, and the Objects to be Attained."

Dr. William E. Darnall, Atlantic City, N. J., read a paper on "The Pubescent School Girl."

Dr. A. W. Wilmarth, Chippewa Falls, Wis., read a paper on the "Diagnosis of the Backward Child."

Dr. G. Hudson Makuen, Philadelphia, read a paper entitled "Speech as a Factor in the Diagnosis of the Backward Child."

Dr. C. F. Wahrer, Fort Madison, Iowa, read a paper entitled "A Plea for the Backward Child."

Dr. J. Noer, Stoughton, Wis., presented "Some Considerations Regarding the Medical Criticisms of the Hygiene of Early Life."

The general discussion was participated in by Drs. Wahrer, Shelly, Kansas; Clifton Scott, Des Moines; Edwin Rosenthal, Philadelphia; Work, Elkhart, Ind.; Wilmarth, Chippewa Falls, Wis.; B. R. Shurly, Detroit; Learned, Massachusetts, and Noer, Stoughton, Wis.

On motion, the Section then proceeded to elect two representatives to the House of Delegates.

Dr. A. C. Cotton, Chicago, nominated Dr. Samuel W. Kelley, of Cleveland, the retiring Chairman, and Dr. Cook, Chicago, nominated Dr. A. C. Cotton, Chicago.

The Chairman appointed Drs. Wahrer and McClanahan tellers. The tellers reported that twelve ballots had been cast for each candidate, whereupon the vice-chairman declared Dr. Samuel W. Kelley and Dr. McClanahan to have been unanimously elected the representatives of the Section to the House of Delegates for the ensuing year.

Dr. McClanahan was then introduced as the newly elected Chairman of the Section, and after some appropriate remarks from him, the Section, on motion, adjourned, at 5:40 p. m., *sine die*.

Married.

GEORGE W. ROBERTSON, M.D., to Miss Kate Martin, both of Macon, Ga., June 7.

HENRY J. WAY, M.D., to Miss Florence Loretta Turlay, both of Chicago, June 19.

J. E. PAYTE, M.D., to Miss Anna Florence, both of Weaverton, Ind. Ter., June 5.

WILLIAM FULLER, M.D., Chicago, to Miss Jaell Gentry, of Sedalia, Mo., June 5.

HERBERT R. SUGG, M.D., to Miss Florence Olney, both of Clinton, Iowa, June 1.

ALFRED L. ZOBEL, M.D., to Miss Maybelle Getz, both of San Francisco, Cal., June 2.

JOHN T. STEWART, M.D., to Miss Minnie M. Wood, both of Los Angeles, Cal., June 1.

FRANK EVANS, M.D., Hastings, Pa., to Miss Jessie Frantz, of Harrisburg, Pa., June 12.

EDWIN M. HUSTON, M.D., Dayton, Ohio, to Miss Lu'u Hyde, of Chillicothe, Ohio, June 12.

WINSTON THOMAS MICHIE, M.D., to Miss Eva Pauline Sale, both of Memphis, Tenn., June 5.

AMOS J. THORNBER, M.D., Powellton, Ill., to Miss Anna G. Schenck, of Nauvoo, Ill., June 5.

H. W. KIRBY, M.D., Cripple Creek, Colo., to Miss Eleanor E. Bryan, at Denver, Colo., June 12.

E. WILLIAMS, M.D., Kansas City, Kan., to Miss Lilian St. John, of Manhattan, Kan., June 6.

M. P. MCELHANNON, M.D., Belton, Texas, to Miss Sue J. Wallace, of Holland, Texas, April 7.

DELAMERE FOREST HARBRIDGE, M.D., to Miss Cora Frances Brown, both of Philadelphia, June 12.

L. MARTIN TRULSON, M.D., Janesville, Wis., to Miss Frederika Falk, of Stoughton, Wis., June 1.

GEORGE WRAGG LAMAR, M.D., Quincy, Fla., to Miss Sarah Attaway Duval, of Madison, Fla., June 5.

EDMUND WILLIAM STEVENS, M.D., Denver, Colo., to Miss Florence Ballance, of Peoria, Ill., June 4.

WALTER SELLMAN, M.D., Mt. Airy, Carroll County, Md., to Miss Georgia Clary, of Baltimore, June 5.

FRANK L. COOLEY, M.D., Oswego, N. Y., to Miss Fannie Rogers, of Hannibal Centre, N. Y., June 3.

CLARENCE F. SCHLITZ, M.D., Bowling Green, Ohio, to Miss Isabelle Williams, of Marengo, Ohio, June 1.

T. CLYDE ROUTSON, M.D., to Miss Margaret Millard, at Buckeystown, Frederick County, Md., June 6.

WILLIAM WILCOX DUNN, M.D., Richmond, Va., to Miss Ann Read McIlwaine, at Hampden Sidney, Va., June 3.

LEVIN I. SOTHORON, M.D., Washington, D. C., to Miss Marguerite Taylor, at King George Court House, Va., June 4.

PHILIP DOGGETT BOMLAND, M.D., Calumet, Mich., to Miss Jessica MacIntyre, of Knoxville, Tenn., at Lake Forest, Ill.

JOHN SAPPINGTON, M.D., Darlington County, Md., to Miss Rosa Seldon Jacobs, at Belair, Hartford County, Md., June 4.

GEORGE HOWITT WEAVER, M.D., to Miss Carrie Earle, daughter of the late Dr. Charles Warrington Earle, both of Chicago, June 12.

HUGH HAMPTON YOUNG, M.D., formerly of San Antonio, Texas, now of Baltimore, to Miss Bessie Mason Colston, of Baltimore, June 4.

Deaths and Obituaries.

William L. Worcester, M.D., pathologist of the Danvers (Mass.) Insane Asylum, and a well-known alienist and writer on the subjects of mental pathology, died at Danvers, June 10, aged 56. His death was due, it is said, to blood poisoning, from which he had been suffering for some time. He should be put down as one of the martyrs of science, it having probably been caused from an accident in his scientific work, although we do not know the particulars. Dr. Worcester graduated from the National Medical College, Washington, in 1873, and was for a time assistant physician to the State Asylum, Kalamazoo, Mich., afterwards at the Arkansas State Asylum, Little Rock. He has held his position at Danvers for about eight years, and was one of the best-known alienists of the country. His loss is a serious one, as there are not too many scientific workers in asylums at present. He was a brother of Professor Dean C. Worcester, formerly of the Michigan University, but now one of the members of the Philippine Commission, and well known by his researches in the natural history of the Philippine Islands, and other similar work.

D. W. Marston, M.D., Bellevue Hospital Medical College, New York, 1898, died at Niagara Falls, June 9, from pneumonia. He was on his way to attend the St. Paul meeting of the AMERICAN MEDICAL ASSOCIATION, but was taken ill and left the party at Niagara Falls, where he died four days later. He was 26 years of age, a man of great ambition, of marked in-

telligence, and of wonderful energy, which secured for him a reputation rarely won by men in the profession at so early an age. He served as interne at the City Hospital, Blackwell's Island, also at the Hospital for the Ruptured and Crippled, and the Hospital of the Post-Graduate Medical School of New York. At the end of his term of service in the latter institution, he was appointed lecturer on orthopedic surgery, and also assistant visiting surgeon, to the Post-Graduate Hospital. He was also visiting surgeon to Daisy Fields Hospital, Englewood, N. J.

Thomas Sidney Scales, M.D., College of Physicians and Surgeons, New York, 1867, for many years health officer, and late quarantine executive officer of Mobile, Ala., a member of the Mobile County Medical Association, and twice its president; a member of the Alabama State Medical Society, and professor of surgery and clinical surgery at the Medical College of Alabama, died at his home in Mobile, after a long illness, June 5, aged 59.

Calvin Terriberry, M.D., Bellevue Hospital Medical College, New York, 1873, one of the best-known members of the profession in New Jersey, died at his home in Paterson, N. J., June 9, from uremia, consequent on Bright's disease, aged 51. He was active in the organization of St. Joseph's Hospital and had been a member of its surgical staff for twenty-three years.

Albert J. Bloch, M.D., Tulane University, New Orleans, 1892, formerly on the staff of the University, a member of the Louisiana State Medical and Orleans Parish Medical associations, died at Denver, Colo., June 8, from the effects of cyanid of potassium taken with suicidal intent, aged 34.

Eugene R. Lewis, M.D., Jefferson Medical College, Philadelphia, 1874, president of the Woman's Medical College, Kansas City; treasurer of the International Association of Railway Surgeons, and a member of the AMERICAN MEDICAL ASSOCIATION, died at his home in Kansas City, Mo., June 8.

Howard A. Alexander, M.D., Kentucky School of Medicine, Louisville, 1875, a prominent member of the Jefferson County Medical Association, died at St. Vincent's Hospital, Birmingham, Ala., May 28, after a short illness from disease of the stomach.

James Murray Stone, M.D., University of Maryland, Baltimore, 1843, died suddenly at Govanstown, Baltimore County, Md., June 5, aged 80. He was born near Salisbury, Md., and practiced until 1898 at Princess Anne, in same county.

J. Henry McCarty, M.D., Atlanta (Ga.) Medical College, 1880, one of the founders of Birmingham Medical College and a member of its faculty for several years, died at his home in Birmingham, Ala., from paralysis, June 12, aged 50.

Robert H. Timpany, M.D., Toledo Medical College, 1894, died from pneumonia, in Toledo, Ohio, June 7, aged 36. Dr. Timpany was formerly editor of the *American Medical Compend*, and surgeon in the Ohio National Guards.

Joseph C. Pomeroy, M.D., Castleton (Vt.) Medical College, 1860, who had practiced in Waverly, Iowa, for forty years, and was a member of the county and state medical societies, died suddenly at his home, June 3, aged 62.

George B. Noyes, M.D., Rush Medical College, Chicago, surgeon of the Waupaca Veterans' Home, and formerly a practitioner in Winneconne and West Superior, Wis., died suddenly at the Home, May 25, aged 55.

William G. Thirkell, M.D., Royal College of Physicians and Surgeons, Kingston, Ontario, 1861, for more than thirty years a practitioner in Sodus, N. Y., died at his home in that place, May 29, aged 63.

John Payne, M.D., Jefferson Medical College, Philadelphia, 1886, a practitioner of Hillman, Ala., and a member of the Jefferson County Medical Society, was shot and killed at that place, May 30, aged 35.

E. A. Gansel, M.D., University of Illinois, 1900, and thereafter an interne at the Emergency Hospital, Milwaukee, died at the home of his parents, in that city, from consumption, June 2, aged 27.

Paul Hubert Larose, M.D., Laval University, Quebec, 1893, a practitioner of Indian Orchard, Mass., died suddenly at his home in that village, from heart disease, May 28, aged 31.

E. H. Iden, M.D., Rush Medical College, 1900, and thereafter interne in a hospital at Joliet, Ill., died at the home of his parents, in Leroy, from consumption, June 3, aged 26.

Rufus Gillaspy, M.D., Missouri Medical College, St. Louis, 1884, assistant physician at the State Hospital for the Insane, Nevada, Mo., died suddenly in St. Louis, June 6, aged 50.

Maurice Lauren Healey, M.D., New York University, 1887, of New York City, died at the home of his mother, in Plattsburg, N. Y., June 7, from pneumonia, aged 37.

Edward Watson, M.D., University of Michigan, 1873, for some time health officer at Grand Rapids, Mich., died at his home in that city, June 17, after a lingering illness.

J. Edward Wright, M.D., Jefferson Medical College, Philadelphia, 1879, a practitioner of Southwark, Philadelphia, died at his home, June 9, from consumption, aged 43.

Seth D. Bowker, M.D., Kansas City (Mo.) Medical College, 1871, a pioneer physician of Kansas City, died from apoplexy at his home in that city, June 8, aged 71.

James L. Ringo, M.D., Louisville Medical College, 1891, a practitioner at Elwood, Ind., and a member of the city council, died at Benton Harbor, Mich., May 28.

Seth B. Sprague, M.D., Bowdoin College, Brunswick, Me., 1867, died at his home in Jersey City, N. J., where he had practiced for ten years, June 5, aged 61.

Lemuel H. Rogers, M.D., Rush Medical College, 1863, of Mackinaw, Ill., died from appendicitis at St. Joseph's Hospital, Bloomington, Ill., June 3, aged 65.

Robert H. Chilton, M.D., Miami Medical College, Cincinnati, 1870, died after a short illness, from paralysis, at his home in Dallas, Texas, aged 55.

George B. Quigley, M.D., University of Tennessee, Nashville, 1894, a practitioner of Rocky Hill Station, Ky., aged 24, was shot and killed, May 28.

Richard Lingle, M.D., University of Louisville, 1861, an army surgeon in the Civil War, died at his home in Orleans, Ind., June 10, aged 63.

R. B. Archibald, M.D., Missouri Medical College, St. Louis, 1886, died at his home in Purdy, Mo., May 31, after a lingering illness, aged 55.

John C. McKee, M.D., Barnes Medical College, St. Louis, Mo., 1896, died suddenly at his home in Hartford, S. D., June 2, aged 35.

Edmond Beale, M.D., University of Pennsylvania, Philadelphia, 1855, died at his residence in Philadelphia, June 1, aged 81.

Societies.

COMING MEETINGS.

Medical Society of New Jersey, Allenhurst, June 25-27.
Wisconsin State Medical Society, Waukesha, June 26.
Medical Association of Nevada, Reno, July 1.
American Ophthalmological Society, New London, Conn., July 17.

Golden Belt Medical Society.—This society will meet in Topeka, July 3.

Upper Cumberland Medical Society.—The annual meeting of this Society was held in Cookeville, Tenn., May 27 to 30. Dr. R. E. Lee Smith, Doyle Station, was elected president.

Roentgen Society of the United States.—The second regular meeting of this Society will be held at Buffalo, N. Y., September 10 and 11, under the presidency of Dr. Heber Robarts, St. Louis, Mo.

Decatur (Ill.) Medical Society.—At the annual meeting of this Society, held May 30, Dr. Wilbur C. Wood was elected president; Dr. W. K. Hoover, vice-president, and Dr. C. Martin Wood, secretary-treasurer.

Association of the Medical Officers of the Army and Navy of the Confederacy.—This Association met, under the presidency of Dr. James M. Kellar, Hot Springs, Ark., at

Memphis, Tenn., May 28 and 29, about 200 members being present.

Buffalo Academy of Medicine.—At the recent election of officers for the Medical Section of the Academy Dr. Julius Ullman was elected chairman, and Dr. Albert E. Woehnert, secretary.

Union County (Ohio) Medical Association.—A number of physicians of Union county met at Marysville, May 28, and organized temporarily with Dr. David W. Henderson, Marysville, as president, and Dr. Stanley J. Bown, Claiborne, as secretary.

The women physicians of Cleveland have organized a medical society, which held its first meeting May 28. The officers of the Society are Dr. Cora Stalling Sechrist, president; Dr. Minnabel Snow, vice-president; and Dr. Fannie C. Hutchins, secretary and treasurer.

New Mexico Medical Society.—At the annual meeting of this Society held May 8, 9 and 10, Dr. George W. Harrison, Albuquerque, was elected president and Dr. J. Frank McConnell, Lascruces, secretary.

De Kalb County (Ill.) Medical Society.—The physicians of De Kalb county met at De Kalb, May 30, and organized this Society, with Dr. Charles B. Brown, Sycamore, president; Dr. Guy J. Wormley, Sandwich, vice-president, and Dr. James M. Everett, De Kalb, secretary and treasurer.

American Medical Editors' Association.—At the annual meeting of this Association, held in St. Paul, Dr. Alexander J. Stone, of that city, was re-elected president, and Dr. Otho F. Ball, St. Louis, Mo., secretary. Dr. Burnside Foster, St. Paul, was elected vice-president.

Upper Des Moines (Iowa) District Medical Association. The fourth annual meeting of this Association will be held at Spirit Lake, August 15, under the presidency of Dr. Charles B. Fountain, Valley Junction.

Saline County (Ill.) Medical Association.—A preliminary meeting of this Society was held in Harrisburg, May 22, at which Dr. S. L. Cheany, Harrisburg, was elected president, Dr. M. D. Empson, Hartford, vice-president, and Dr. Joseph B. Baker, Harrisburg, secretary and treasurer.

Barnstaple District (Mass.) Medical Society.—This Society held its annual meeting at Hyannis, May 9, and elected Dr. Louis Edmonds, Harwich, president; Dr. Edwin M. Parker, South Yarmouth, vice-president; Dr. George N. Munsell, Harwich, treasurer and librarian, and Dr. James H. Higgins, Marston's Mills, secretary.

Clinton County (Ill.) Medical Society.—The annual meeting of this Society was held in Carlyle, May 28. Dr. William P. Gordon, Carlyle, was elected president; Dr. Theophilus Gaffner, Trenton, vice-president; Dr. M. Broening, Carlyle, secretary, and Dr. Philip H. Leibrock, New Memphis, treasurer.

Minnesota State Medical Society.—This Society held a business meeting at St. Paul, June 3, at which Dr. William A. Hall, Minneapolis, was elected president; Dr. John P. Humes, Winnebago City, vice-president; Dr. Thomas McDavitt, St. Paul, secretary, and Dr. Richard J. Hill, Minneapolis, treasurer.

White River Medical Association.—At the annual business meeting of this Association, held at White River Junction, Vt., Dr. Alanson C. Bailey, Randolph, Vt., was elected president; Dr. Howard N. Kingsford, Hanover, N. H., and Dr. Mark P. Stanley, White River Junction, Vt., secretary and treasurer.

Bedford County (Tenn.) Medical Society. — This Society met for reorganization at Shelbyville, June 1. Dr. Frank B. Reager, Shelbyville, was elected president; Dr. George L. Landis, Unionville, vice-president; Dr. William G. Frierson, Nashville, secretary, and Dr. J. Isaac Campbell, Shelbyville, treasurer.

Richland County (Wis.) Medical Association.—Representatives of the medical profession of Richland County met May 18 at Richland Center and organized this Society with the following officers: Dr. H. Jackson Wall, president, Dr. Robert H. DeLap, vice-president, and Dr. Frank W. McKee, recording secretary and treasurer, all of Richland Center.

Indian Territory Medical Association.—At the annual meeting of this Association, held in Vinita, Dr. George W. West, Eufaula, was elected president; Dr. Bagby, Vinita, first vice-president; Dr. William A. Haley, Durant, second vice-president, and Dr. Fred S. Clinton, Tulsa, secretary and treasurer. The next meeting will be held at Muscogee in December.

Massachusetts Medical Society, Essex South District.—The annual meeting of this branch of the Society was held in Salem, May 28. Dr. Herbert W. Newhall, Lynn, was elected president; Dr. Herbert J. Hall, Marblehead, vice-president; Dr. Charles H. Bangs, Lynn, secretary; Dr. George Z. Goodell, Salem, treasurer, and Dr. George C. Littlefield, Salem, librarian.

Mason County (Ky.) Medical Society.—At the meeting of this Society at Maysville, May 29, the following officers were re-elected for the ensuing year: Dr. James Shackleford, Maysville, president; Dr. Alexander Hunter, Washington, vice-president; Dr. Amos G. Browning, Maysville, secretary; Dr. A. N. Elles, Maysville, corresponding secretary, and Dr. Samuel R. Harover, Maysville, treasurer.

Fourth District Branch of the New York State Medical Association.—This branch met for its seventeenth annual session, at Buffalo, May 31. The following officers were elected: Dr. Charles A. Wall, Buffalo, president; Dr. J. William Morris, Jamestown, vice-president; Dr. Bernard Cohen, Buffalo, secretary, and Dr. William Irving Thornton, Buffalo, treasurer. The 1902 meeting will be held at Chautauqua.

Detroit (Mich.) Medical Society.—After an existence of only a little more than a year, this Society, at its first annual meeting, May 29, showed an enrollment of 355 against the charter membership of 43 with which it was organized in April, 1900.

Alumni Association of the College of Medicine and Surgery of the University of Minnesota.—The annual meeting and luncheon of this organization was held in St. Paul, June 6. The following officers were elected: Dr. Louis B. Wilson, Minneapolis, president; Drs. George B. Head, Minneapolis, and Frank W. Dean, Council Bluffs, Iowa, vice-presidents, and Dr. Warren A. Dennis, St. Paul, secretary and treasurer.

Doniphan Brown (Kan.) Medical Society.—At the annual meeting of this Society, composed of physicians from Doniphan and Brown Counties, held at Highland, May 30, the following officers were elected: Dr. William E. Lewis, Highland, president; Drs. Aaron Herring, Highland Station, and J. H. McGauhey, White Cloud, vice-presidents, and Dr. William Boone, Highland, secretary and treasurer.

Connecticut River Valley Medical Association.—The secretary of this association calls our attention to a mistake in the list of newly-elected officers which appeared in THE JOURNAL of June 1, page 1576. The list should have been as follows: Dr. James A. Craig, Westmoreland, N. H., president; Dr. Frederick L. Osgood, Townshend, Vt., vice-president; Dr. J. Sutcliffe Hill, Bellows Falls, Vt., secretary, and Dr. Edward R. Campbell, Bellows Falls, Vt., treasurer.

Delaware State Medical Society,—The annual meeting of this Society was held at Lewes, June 11. It was decided to hold the next meeting at Newark. The following officers were elected: Dr. Edward D. Dwight, Smyrna, president; Drs. Robert Ellegood, Delmar, and Harry G. M. Kollock, Newark, vice-presidents; Dr. John Palmer, Jr., Wilmington, secretary, and Dr. William C. Pierce, Wilmington, treasurer. The next meeting will be held at Newark.

American Pediatric Society.—The list of officers elected by this Society which appeared in THE JOURNAL last week is incorrect. The correct list is as follows: Dr. Walter S. Christopher, Chicago, president; Drs. Charles W. Townsend, Boston, and John Dorning, New York City, vice-presidents; Dr. Samuel S. Adams, Washington, D. C., secretary; Dr. J. Park West, Bellaire, Ohio, treasurer, and Dr. Walter Lester Carr, New York City, recorder and editor.

Alumni of Albany Medical College, Central New York Association.—This branch of the Alumni Association was organized at Utica, N. Y., May 29, with the following officers: Dr. Charles J. Bacon, Fulton, president; Drs. Earl D. Fuller, of Utica, Eben A. Wood, of Syracuse, Irving S. Edsall, of Middleville, William C. Fawdrey, of Lorraine, Charles Bernstein, of Rome, and Arthur C. Hagedon, of Gloversville, vice-presidents; Dr. Frederic H. Brewer, Utica, secretary, and Dr. Erwin J. Cusack, Fulton, treasurer.

American Medico-Psychological Association.—The fifty-seventh annual meeting of this Association was held in Milwaukee, June 11 to 14. The council recommended the establishment of a laboratory for medico-psychologic research, in Washington. Dr. Robert J. Preston, Marion, Va., was elected president. Dr. George A. Blumer, Providence, R. I., vice-presi-

dent, and Dr. C. B. Burr, Flint, Mich., secretary-treasurer. Montreal was decided on as the next place of meeting.

International Association of Railway Surgeons.—The fourteenth annual meeting of this Association was held in Milwaukee, June 10 to 12. The following officers were elected: Dr. Rhett Goode, Mobile, Ala., president; Drs. John A. Barr, of McKeesport, Pa., Walter M. English, of London, Ont., Lester Keeler, of Ironton, Ohio, Bacon Saunders, of Ft. Worth, Texas, Samuel R. Miller, of Knoxville, Tenn., Benj. Thompson, of Tama, Iowa, and Albert L. Peterman, of Parker, S. Dak., vice-presidents; Dr. Louis J. Mitchell, Chicago, secretary, and Dr. James A. Duncan, Toledo, Ohio, treasurer. The Association will meet at St. Louis next year.

Association of American Medical Colleges.—After ten years, harmony has been secured in this Association, at its annual meeting, in St. Paul, June 3, by the admission to membership of twelve southern medical colleges, making a total membership of seventy-seven. Dr. Victor C. Vaughan, Ann Arbor, Mich., was elected president; Dr. William L. Rodman, Philadelphia, first vice-president; Dr. H. Bert Ellis, Los Angeles, Cal., second vice-president, and Dr. Bayard Holmes, Chicago, secretary. Kansas College of Medicine, Topeka, and University Medical College, Kansas City, Mo., which had been suspended for infractions of rules, were reinstated and the charges preferred against the Hospital College of Medicine, Louisville, Ky., were not sustained.

Maryland Public Health Association.—The fifth annual meeting of this Association was held at Baltimore, May 23. A bronze mural tablet bearing a portrait of the late George H. Rohe, was presented to the Medical and Chirurgical Faculty by Dr. J. S. Fulton on behalf of the Association, and Dr. Harry Friedenwald received the gift on behalf of the Faculty. The tablet will be affixed to the wall in the Faculty's rooms on North Eutaw street. The following officers were elected: Mr. Henry Brauns, Baltimore, president; Drs. James Bosley, Baltimore, Thomas B. Owings, Ellicott City, Clotworthy Birnie, Taneytown, Edward R. Trippe, Easton, and Augustus Stabler, Brighton, vice-presidents; Dr. John S. Fulton, Baltimore, secretary, and Dr. L. Gibbons Smart, Baltimore, treasurer.

Rhode Island Medical Society.—The ninetieth annual meeting of this Society was held at Providence, June 6. The annual address was delivered by Dr. G. Alden Blumer, Boston, on "The Yesterday and To-day of Mental Medicine." The following officers were elected: Dr. George F. Keene, Howard, president; Drs. William R. White, Providence, and Christopher F. Barker, Newport, vice-presidents; Dr. Frank L. Day, Providence, recording secretary; Dr. Herbert Terry, Providence, corresponding secretary; Dr. Frederick T. Rogers, Providence, treasurer, and Edmund D. Chesbro, James H. Davenport, John C. Pegram, Jr., George S. Mathews and Frank E. Peckham, all of Providence, board of examiners.

Greene County (Ohio) Medical Society.—The annual meeting of this Society was held in Xenia, June 6. The following officers were re-elected: Dr. Asa C. Messenger, Xenia, president; Dr. T. Marion Kent, Spring Valley, vice-president; Dr. Miron I. Marsh, Cedarville, secretary; Dr. David E. Spahr, Clifton, treasurer. Dr. John C. Oliver, Cincinnati, was the guest of the Society, and read a paper on "Strangulated Hernia."

Tri-County Texas Medical Society.—The physicians of Covington, Blanton, Blum, Heron and Kimball met at Blum, May 18, with Dr. Joseph M. Hanks, temporary chairman; and organized a society for the purpose of making a closer study of the science of medicine, and up-building of the profession in general. The following officers were elected: Dr. James S. Terrell, Blanton, president; Dr. Joseph M. Hanks, Blum, vice-president; Dr. C. Gallaway, Blum, secretary, and Dr. W. H. Maner, Blum, treasurer.

CALIFORNIA ACADEMY OF MEDICINE.

Regular Meeting held May 28, 1901.

Dr. Philip King Brown in the chair.

Pott's Fracture.

DR. HARRY M. SHERMAN exhibited a patient on whom he had operated for the correction of the deformity which follows Pott's fracture. The man had sustained a fracture in 1900, the usual deformity supervening after the splints were left off, the foot going into valgus and equinus so that when it was put on the ground it touched only along the border of the big toe. He corrected this deformity, and osteëctomy was done on the inner malleolus, removing all the excessive callus which had been thrown out; and an open osteotomy was done on the fibula just below the point of the original fracture. An achillotomy corrected the equinus. The severed malleolus was now fastened to the shaft by a long nail, all wounds were closed, and the leg and foot put up in plaster. Healing was uneventful. When the splints were left off about eight weeks after the operation a little motion was found to exist in the ankle, and this has since slowly increased.

Gangrene of Leg Following Confinement.

DR. C. A. VON HOFFMANN reported a case of a woman 28 years of age, with gangrene of the right foot and leg, which came on after an apparently normal confinement. On the morning of the sixth day after her confinement she suddenly turned her head to the right and got a convulsion which lasted ten minutes, followed by three more, each one increasing in duration, the last persisting about an hour. A catheterized specimen of urine showed albumin. Two days later the patient turned suddenly to the right, but had no convulsion. After about thirty minutes she opened her eyes, but could not speak. Pencil and paper were given her and she tried to write. She was able to write "I w" and continued to write w's, looked at it and shook her head, but could not speak. She understood questions asked her perfectly. After 15 minutes she motioned for pencil and paper again and wrote "I want you to tel," then put pencil down, and, commencing to write again, made only l's, looked at it, shook her head, and put the pencil down. An hour later she pronounced the words "I want you to tell me how my baby is," hesitating between the words. After that she continued to speak. During this day the husband noticed dark purplish spots on her face. The following morning she complained of intense numbness in the left leg, and swelling in the right leg could be detected. The left leg became very dark below the knee and further down the right one showing the same changes, but not quite so intense, and later there was found to be loss of sensation in the toes which spread over the foot as far as the ankle. During the first week after confinement the patient had suffered from asthma, but was free from it after the first convulsion. The right leg continued to get worse until the patient entered the Children's Hospital. At the time of entrance her pulse was 140, temperature 39.2 C, respiration 32, very much exhausted, breathing in a very labored manner, with burning pain in the right leg. The whole right foot was gangrenous, but there was no line of demarcation. The left foot had a dark spot over the instep, and on the heel. The pulse in the left wrist could not be felt, sensation was normal in the left foot, entirely gone in the right. She coughed a good deal, and this condition remained practically unchanged until Dr. Sherman saw her five days later.

DR. H. M. SHERMAN reported that he saw this patient at Dr. von Hoffmann's request on December 18, and found the right foot and leg gangrenous up to the junction of the upper and second quarters of the leg, where a line of demarcation had formed. The gangrene was dry, the toes being already dessicated. About the left ankle were several areas of necrosis in the skin. The tip of the fourth toe on the left foot was gangrenous. Pulsation could be felt in each femoral, but not very well, chiefly because of the weak heart, but also because of the adipose tissue. Pulsation could not be obtained in the left radial at the wrist. The heart was weak, rapid, and irregular, but there were no murmurs. An acute nephritis was present, the urine containing albumin, hyaline, granular and blood casts, and red and white blood corpuscles. Wishing to wait for some possible improvement in the heart and kidney condition, operation was temporarily deferred, but was undertaken on the 28th. The leg was amputated through the knee-joint by a Stoke's modification of Gritte's amputation. When the stump was dressed a week later the flap was a little dark colored but had adhered in its place; no pus, no hyperemia, no tension or accumulation in the stump. At the present time, five weeks after the operation, the stump is fairly healed. Examination of the leg showed post-mortem clots in the arteries and veins; by post-mortem he meant clots that had formed after the death of the tissues by gangrene. At the

point where the popliteal artery divides into the anterior and posterior tibials, was a larger, harder and firmer clot which he thought was an embolus, which plugged the arterial circulation at that point, but as it had to be acknowledged that no cardiac lesion could be found to explain the formation of a hard clot, it may be that it was an arterial thrombus and not an embolus. The occurrence of superficial gangrene in the skin of the left ankle must have been due to a similar cause—embolic fragments plugging small arterioles, or thrombi forming in arterial branches.

Amputation for Gangrene Due to Periarteritis.

DR. WALLACE I. TERRY reported a case "Amputation for Gangrene Due to Periarteritis" in a man aged 31, by occupation a leather stamper, who came to the City and County Hospital February 8, complaining of pain in the right foot and leg, and gangrene of the big toe of the same extremity. The following history was obtained: He used alcohol moderately; cigarettes to excess. Father died of cancer, mother of cholera. He had had urethritis twice, epididymitis once. Lues denied. In 1887 both feet became swollen, red and painful. This attack lasted for six months. A second similar attack came on a year later. A third attack in 1894 with swelling of both legs, and a fourth in 1897, but only affecting the left leg. He had some pain in both legs at times since then. About six or seven weeks before admission, the right big toe became red and painful, apparently from an ingrowing toe-nail. Swelling soon extended up the foot and a couple of incisions were made by a physician on the dorsum of the foot. On the day before admission the first phalanx became black. Examination showed a rather thin neurotic individual. Gangrene of the right big toe; swelling of the foot; great pain and tenderness in leg and foot. Heart and lungs normal. Urine normal, although patient stated that it had been very dark colored at times. On the day after admission he disarticulated the big toe at the metatarsophalangeal joint, leaving the wound open. The metatarsal bone was apparently sound. Two days later the second and third toes grew dark in color and were soon gangrenous. No further operative measures were deemed advisable until a more definite line of demarcation was established. The foot was dressed antiseptically and kept warm. By the beginning of March, the lower third of the foot was gangrenous, the process having gradually extended, so an amputation of the leg at the lower third was done by Dr. Huntington. The stump healed well except for a small patch of gangrene on the posterior flap. On May 27, 1901, the patient had gained in weight and was looking well, but had had some pain in left leg within the past few days.

DR. H. M. SHERMAN also reported a case of "Amputation for Gangrene Due to Periarteritis." A man of 40 years of age, who had for several years suffered pain on the top of the left instep, which had been treated for rheumatism. Apart from the pain his health had been good. In October, 1896, he was suffering greatly, and thought he had an ingrowing big toe-nail. He was treated by a chiropodist, the result being a septic wound, which finally necessitated the amputation of the toe. The stump, however, did not heal and the local condition progressing he finally lost all the other toes, except the little one. In April, 1897, an ulcer came spontaneously on instep, which not healing, it was decided to curette it when the bone, being found very fragile and friable, an impromptu operation was done 5 inches above the ankle. This stump also did badly, and another amputation removed 4 more inches of the leg. This stump followed the course of the others; an ulcer persisted which would not heal under any treatment until the hot-air baths were tried, and under them it nearly closed, so that an artificial leg could be worn. Sometime after, his stump became worse, and then his right foot began to pain him. He then began the hot-air baths for his stump, and the ulcer fully healed, but the right foot was worse, pain being complained of in the sole and instep. An ulcer formed on the little toe for which the distal phalanx was removed, but this made matters worse. Pus burrowed into the sole, red, swollen areas developed in the dorsum, and there was danger that the local sepsis would become more and more extensive, so, after incisions being made on the sole and dorsum without any relief, amputation of the leg was done at the junction of the upper and middle thirds. At this operation it was noticeable that there was no hemorrhage from the anterior tibial artery in general, the tissues of the stump looked darker than they should, and the blood from them was also darker than normal. From then on healing proceeded uneventfully but slowly.

DR. A. E. TAYLOR presented pathological reports on the last two cases. Dissections of the anterior and posterior vessels were done, and it was noted, particularly for the anterior vessels, that they were surrounded by an abnormal amount of connective tissue, which was very dense and unlike the normal areolar tissue usually found about the vessels. The vessels were then measured and fixed. Thrombosis was noted in both anterior tibial vessels, in both anterior veins and their subdivisions, and in the posterior veins in the case of Dr. Terry. As compared to the normal these arteries displayed a great reduction in the total diameter, and a normal thickness of the wall with a great reduction of the diameter of the lumen. Normal arteries of the same total diameter as these would have much thicker walls so that these walls, though apparently normal, were really increased in thickness. In no case was the area of the diseased vessels as much as 1/10 of the normal area, while in the anterior tibial vessels in Dr. Terry's case it was but 1/100. Microscopic sections of the vessels showed the elastic tissue and the muscular coat to be qualitatively normal. The intima was not notably thickened in either case, except in the areas of thrombosis, where it was involved in the process of obliterative fibrosis. No signs of lime salts could be found. The endothelial cells lining the vessels were normal in the patulous portions. The adventitia was thickened; it was usually well outlined from the surrounding excessive fibrous tissue. In the areas of thrombosis the process was an obliterative arteritis. The portions of the vessels not submitted to microscopic section were dissected. The process of thrombosis did not extend along the entire length of the vessels involved, except in the case of the anterior artery in Dr. Terry's case. There were small portions in which the lumen was patulous. These portions were carefully examined with a hand glass, for areas of atheroma. None were found. The vessels were not at all tortuous, but perfectly smooth and straight. The veins presented no other lesions than the thrombosis.

THE CHICAGO LARYNGOLOGICAL AND CLIMATOLOGICAL SOCIETY.

Regular Meeting, held May 2, 1901.

Dr. William E. Casselberry, in the chair.

DR. JOHN EDWIN RHODES read a paper on "Some Interesting Throat Paralyses in a Case of Locomotor Ataxia of an Irregular Form." (See "Original Articles," p. 1769.)

DR. OTTO T. FREER—The paralysis of the crico-arytenoideus posticus muscle, or abductor of the vocal cord, mentioned in the case reported by Dr. Rhodes, is one that is characteristic of tabes dorsalis. Felix Semon made this the subject of especial research; he finds that though there are some cases of total paralysis of the recurrent laryngeal nerve and also of the superior laryngeal as the result of tabes; these are rare exceptions compared with the great frequency of paralysis or paresis limited to the most vulnerable fibers of the recurrens, those that supply the crico-arytenoideus posticus. The paralysis may be uni- or bi-lateral. If unilateral there are no symptoms and the difficulty is only discovered during laryngeal inspection. The affected cord can be seen fixed in the median position while the other one is abducted and leaves plenty of room for respiration. Where the paralysis is bilateral, both cords are adducted, but generally not so forcibly but that respiration can be carried on without marked dyspnea unless the patient exerts himself or catarrhal swelling closes the small chink of the glottis. In some cases, however, dyspnea is urgent and dangerous. The voice is unimpaired.

A second characteristic form of tabetic nervous disturbance of the larynx is the so-called laryngeal crisis. This presents varying grades of severity. In the mildest form there are simply violent paroxysms of coughing which recur with great

obstinacy and for which no local reason can be found in the respiratory tract. In the degree of next greater severity the coughing spells are accompanied by spasm of the glottis with severe dyspnea and tickling, and scratching sensations with other laryngeal paresthesiæ. The attack lasts from a few seconds to a few minutes and is intensely distressing. In the severest cases the suffocation is sufficient to cause loss of consciousness, involuntary defecation and urination with epileptic seizures. Even these grave attacks are seldom fatal.

A patient in my care presents the mildest form of these three grades of laryngeal crises. He has a paralysis of the third nerve, with the characteristic paralysis of the ocular muscles in addition to the usual signs of tabes. He complains constantly of paroxysmal cough, for which no local cause can be discovered in the respiratory tract.

Dr. Rhodes' paper is interesting in that it emphasizes what may in some cases be the earliest sign of tabes dorsalis, paralysis of the crico-arytenoideus posticus muscle. Paralysis of the abductors of the cords may be the first evidence of beginning locomotor ataxia. If the laryngoscope were more generally used, and especially if more pains were taken to become reasonably skilful in its employment, this obscure and valuable sign would doubtless be discovered far more often than it is now; but as abductor paralysis does not alter the voice and as it does not always create noticeable obstruction to respiration, even if bilateral, it is sure to be overlooked if the larynx is not inspected. The examination for suspected tabes should always include the use of the laryngoscope.

DR. E. FLETCHER INGALS read a paper entitled "Diagnosis of Diaphragmatic Hernia." (See page 1770.)

DR. OTTO T. FREER—Dr. Ingals has mentioned me as one of those to whom he kindly awarded the privilege of seeing the remarkable case he has described. Though there were times when the diagnosis pneumothorax seemed possibly correct to me, observation of the long course of the ailment and summing up of the signs observed makes me think that the case can only have been one of diaphragmatic hernia.

Those who contended for pneumothorax have furnished no reasonable pathological basis for their opinion. Tuberculosis was advanced as an etiologic factor. The patient presented no evidence of tuberculosis. He had no fever, no wasting and no general signs of tuberculosis. He was a robust man in every respect and perfectly healthy with the exception of the affection under consideration.

Another theory advanced explaining the occurring of pneumothorax was that the lung was adherent at some point to the chest wall and that deep inspiration had violently pulled on this place, causing a tear in the lung tissue. This seems very unlikely when we consider the enormous frequency of pleuritic adhesions and the rarity of pneumothorax. If a tear in the lung parenchyma of this kind had occurred it certainly could not have penetrated very deeply from so slight a traumatism and the little wound would have soon closed after the lung had collapsed in the region of the tear. We know how soon similar openings in the lung tissue complicating rib fractures close when the chest wall has not been perforated. Another argument against this theory is that at no time were we able to demonstrate the presence of fluid in the chest cavity, yet a rent of the lung tissue sufficient to cause a prolonged pneumothorax would surely have led to a pronounced hemothorax when we consider the very vascular pulmonary tissue. A hemothorax would certainly have been followed by a pleuritic effusion as we know from clinical experience. There is no history of hemothorax or pleuritic effusion in this case. The rapidity with which bleeding into the pleural sac is followed by serous effusion I can illustrate by a case of my own in which the patient had stabbed himself with a penknife. Within two days after the injury he had a marked collection of fluid in the pleural cavity that had been penetrated. This subsided after about two weeks.

The gurgling sounds I heard only on my first examination and I was surprised at their loudness and metallic character. They were certainly as loud as I have ever heard them over the abdomen. They were not frequent and I chanced to hear them while I was listening in the region just below the angle of the scapula. The metallic tinkling or falling drop sound was loud and unmistakable, and when I was listening was rhythmical, occurring at intervals of a few seconds. This sound could not have been produced in a pleural cavity that did not contain enough fluid for the drop to splash into, yet we never could demonstrate the presence of fluid in the pleural sac at any time. The inference is that the drops were falling into fluid within some hollow organ in the chest cavity.

The loud gurgling sounds were heard much higher in the thorax than it is usual to hear transmitted abdominal sounds and they were of surprising intensity. It was contended that a pneumothorax would favor transmission of these noises. Air in the pleural cavity certainly does not favor conduction of respiratory sounds to our ear, therefore I can not understand why it should favor transmission of abdominal ones. Respiratory sounds are far better carried by the parenchyma of the expanded lung. Fluid is even a better conductor than air and yet we know how a pleuritic effusion will dampen and suppress sounds from the lung.

To explain the rather sudden appearance of the symptoms of diaphragmatic hernia in this case we must assume that a small hernia had existed for a long time and that it had gradually enlarged to a point which made its sudden increase from a slight cause easy.

DR. JOHN EDWIN RHODES—I wish only to say that I appreciate very fully the care with which Dr. Ingals has investigated this case, and the strong argument that he has advanced in favor of diaphragmatic hernia. I could not fully decide that it was a case of diaphragmatic hernia, although my findings were much in favor of it rather than that of pneumothorax. The reasons for believing that it is a case of diaphragmatic hernia have been clearly stated by Dr. Ingals, from the examinations I made and the points that have been brought out by him. I am inclined to accept his diagnosis.

DR. WILLIAM E. CASSELBERRY—The essayist has made an excellent argument in favor of a diagnosis of diaphragmatic hernia. I must confess to being, as yet, unconvinced. Of course, conviction in such a case is difficult from a mere report without seeing the case itself, no matter how carefully the details are given.

What impressed me as faulty in the diagnosis of diaphragmatic hernia is the disappearance of the intestinal gurgling sounds late in the case; and that while they were present early and were heard by both Drs. Ingals and Freer in their first few examinations, in later examinations they failed to hear these sounds. If there was a loop of intestine, colon, or stomach that passed through the diaphragm, I do not see why there should not be nearly all the time, when digestion was in progress, some gurgling or bubbling sound. I would suggest in this connection that, if opportunity offers, the patient be given a cathartic, and that an examination be made at the proper time during its action, under which circumstances the gurgling sounds one would expect to be increased very markedly in frequency and intensity, and with unmistakable identity to the well-known gurgling sounds which are heard over the intestine. Again Dr. Freer has referred to these or other sounds as "metallic tinkling." "Just like a drop falling into a bottle of fluid." Now, there is really no similarity between the sounds of intestinal gurgling or stomach splashing and real metallic tinkling in pneumo-hydrothorax. Is it not possible that both were present and that the gurgling sound was simply transmitted from the colon in its normal situation?

In favor of diaphragmatic hernia would be the total absence of fluid from the pleural cavity, for, as remarked by the essayist, communication of the bronchial tract with the pleural cavity almost certainly leads to infection and effusion. Without fluid in the pleural cavity the sound could not have been real metallic tinkling. I must say, however, that I believe it would be possible for a small amount of fluid to be in the pleural cavity without causing distinct physical signs and without being caught by an aspirating needle. I am quite certain that I have aspirated unsuccessfully at times in cases of pleurisy with slight effusion. In other words, I have failed to get the fluid which I believed to be there. I know it is difficult to do these things, but if aspiration had been made

more than once, not depending upon a single aspiration. I would have more confidence in this test.

DR. INGALS—Aspiration was made twice.

DR. CASSELBERRY—I accept that statement as being a further verification of Dr. Ingals' diagnosis of diaphragmatic hernia except that the fluid might have escaped even a double aspiration.

A point in favor of diaphragmatic hernia is the variation in the position of the heart, not that the heart was merely at first pushed far to the right, and late in the case to the left, which might have been caused by a continuous absorption of air from a possible pneumothorax, but that it was one time far to the right and the next time to the left, arguing, as Dr. Ingals has said, in favor of a variation in the amount of distention by the loop of intestine or stomach that happened to be through the diaphragm. Yet even with this sign one can conceive of a small bronchial perforation having forced through it into the pleural cavity at different times a varying quantity of air dependent perhaps upon the degree of respiratory activity.

DR. MORLEY D. BATES—The patient told me that at one time he felt as if something gave way in his chest on the left side, in the region of the third interspace, and that he felt a sensation of air blowing through the opening thus produced. It was a whistling, blowing sensation on deep inspiration, and at times it would subside, after which he thought the heart was pushed farther to the right. I do not know whether that point was mentioned or not.

DR. INGALS—I think I mentioned that the patient often felt a splashing sensation, and at one time, shortly before the last examinations were made, he spoke of having felt something give way, pushing his heart to the right side.

DR. BATES—When I examined him I heard a gurgling sound in the lower portion of the thorax, on the left side, but I think these sounds were transmitted in a measure from the distended intestine, or from the stomach. I heard them low down, not up any farther than the sixth rib.

DR. INGALS (closing the discussion)—The patient never had any evidences of pleurisy; there was no collapse of the upper portion of the lung at any time. The area of vesicular sounds present varied from one to two inches at the lower part of the acting portion of the lung, which could not have been the case with air in the pleural cavity. In answer to Dr. Casselberry I may say that it was suggested that the patient take a cathartic but he did not care to do so. I heard the gurgling sounds on several occasions, but at many of the examinations I did not hear them.

PHILADELPHIA ACADEMY OF SURGERY.

Meeting May 6, 1901.

President Dr. DeForrest Willard in the chair.

Empyema.

DR. R. H. HARTE reported five cases and exhibited three of the patients. Two patients had suffered from pleurisy with effusion, the fluid subsequently becoming purulent. In these two cases the temperature ran a zigzag course, one being regular, the other more sharply defined. As to the measures to be adopted in these cases, he believed in the resection of portions of two or three ribs, and subsequently inserting an extra-sized drainage tube. A very large tube is always necessary, since smaller ones become easily occluded by flakes of lymph. Frequently these flakes of lymph may wall off a collection of fluid within the pleural cavity and produce a rise of temperature. To break up these pockets so produced a metal sound had been of advantage. As to the incision, he preferred one made in the mid-axillary region. This incision might be vertical or curved. In one of the cases he had made a longitudinal incision. In old cases of empyema the incision of Godley frequently gives good results. In empyema it is astonishing how quickly the patients improve after the operation.

DR. R. G. LECONTE had seen two of these cases previous to operation, and agreed that they had been desperate ones. He also believed in resection of the ribs to permit drainage. In those cases where there was a very extensive collection of fluid, a preliminary puncture might be resorted to previous to the resection of a rib.

DR. W. J. TAYLOR stated that several years ago he had been called out of the city to see a case of empyema in which there had been a very large collection of fluid present. In this instance he had made an incision under the breast, thus allowing drainage to occur. Later he had resected a rib, thus effecting a cure. In this case considerable purulent material had drained off.

DR. H. R. WHARTON believed in resection of a rib in empyema, and also thought that a very large drainage tube was advisable. In the case of children he did not believe that immediate resection of a rib was advisable, simple drainage usually being effective. In cases of empyema of long standing or in those cases where a sinus exists he resects a rib at the primary operation.

DR. G. G. DAVIS does not believe in irrigation of the pleural cavity at the primary operation. In some instances in which the cavity communicates with a bronchus, this might be a dangerous process.

DR. J. H. JOPSON had treated five cases of empyema of children recently. In these instances, simple drainage had given relief.

DR. DEFORREST WILLARD believed in the resection of a rib in children, since in these instances the ribs were so closely placed together that drainage was not always effectual. As to irrigation, he never resorted to this procedure unless the purulent material had an odor.

DR. HARTE, in closing, stated that as a rule he generally resected a rib in empyema of children, the same as in adults. As to irrigation, he disapproves of it. He prefers ether as an anesthetic.

Ligatures of External Carotid; one for Hemorrhage after Tonsillotomy, the Other for Hemorrhage after Intranasal Operation.

DR. W. W. KEEN believed that as a rule ligation of the external carotid artery presented no serious difficulty. In Case 1 the patient, aged 22 years, had suffered from hypertrophy of the tonsil, which had subsequently been removed with a tonsillotome. At the time of operation no special hemorrhage had occurred, but three hours later hemorrhage had been profuse, requiring ligation of the external carotid. In Case 2, Mr. M. B., several years previously had had a polyp removed, and at the present time was suffering from a hypertrophic process affecting the septum. This growth was curetted by a physician, and sharp hemorrhage occurred, about 20 ounces of blood being lost. The nares were firmly packed, but more or less oozing still continued. Nearly all known remedies were tried to stop the hemorrhage without relief. These remedies included: the actual cautery, trichloracetic acid, gauze packing, ham fat, adrenalin, but hemorrhage continued for several weeks, the patient losing in all probably 10 pints of blood. At last ligation of the external carotid was done, and hemorrhage at once ceased. Recovery in both instances was prompt.

Cases of Facial Anthrax Treated by Injections of Carbolic Acid.

DR. L. H. MUTSCHLER referred to certain cases of anthrax which had been reported before the Philadelphia Pathological Society by Dr. J. H. Jopson in December, 1899. In the first one of the speaker's cases the man had been 21 years of age, and had been handling goat skins imported from China. After some time a pimple had developed over the eyebrow, and in the center of this pimple a dark spot had occurred. Surrounding this was considerable edema, though little pain was present. The temperature remained about 99.2 F. In this case a solution of carbolic acid of 95 per cent. had been injected in eight localities surrounding the initial pimple, and later a bichlorid dressing was applied, and on the third day the slough separated and recovery occurred.

In Case 2, the patient had been a man 44 years of age, and had been employed in a factory in which he had to handle goat skins. These products had been imported from Russia. In this instance a spot developed on the face, causing edema

of the neck, scalp and jaw. In this instance the edema had been confined to one side of the neck, but there was no glandular enlargement. A black slough occurred in the center of the region affected. There was no pain accompanying the part involved. Pure carbolic acid when injected around the site of disease effected a cure. In both cases pure cultures of the anthrax bacillus were found, which, when injected into mice, caused death within 13 hours. The speaker had wondered why the Government had taken no action to prevent the importation of infected hides.

DR. J. H. JOPSON referred to the cases of anthrax he had reported. Up to this time there had been ten cases of anthrax reported in Philadelphia, and doubtless there had been many cases throughout the country which had never been recognized.

DR. J. CHALMERS DACOSTA had seen two cases of anthrax, one of which he had mistaken for malignant edema.

DR. W. J. TAYLOR had seen the first case reported by Dr. Mutschler, and stated that after the injections of carbolic acid recovery had been prompt.

DR. R. H. HARTE wondered why it was the habit of hospitals not to admit these cases. He desired to go on record as believing that they should be admitted to hospitals.

Ultimate Result in a Case of Interscapulo-thoracic Amputation.

DR. R. G. LECONTE reported the case which had been reported before the society at a former meeting. It was one of sarcoma affecting the left shoulder, and of a recurrent type. During a part of 1899 patient's health had been good, but in January, 1901, another operation had to be performed, at which time a portion of a rib was removed. Some time later asthmatic attacks developed, with bloody expectoration, small pulse, dyspnea, and finally death occurred Feb. 25, 1901. At the post-mortem examination pleural adhesions were found. The apex of the right lung showed fibroid degeneration. In the right lung a growth the size of an orange was found. The liver showed fibroid change, and the spleen showed whitish growths. The tumor of lung when examined microscopically was found to be made up of spindle cells, with spindle-shaped nuclei and with nucleoli. Dense hyaline degeneration products were found over the spleen. Some giant cells were also found. It is somewhat remarkable that this tumor had affected the left shoulder in the beginning of the attack, and afterwards had given metastasis in the right lung.

TRANSACTIONS OF THE WOMAN'S HOSPITAL SOCIETY OF NEW YORK.

May Meeting, 1901.

Dr. Joseph E. Janvrin in the chair.

A New Method of Nephrorrhaphy.

DR. P. F. CHAMBERS read a paper with this title, and said that although he had not been able to learn of any practical objections to the method in vogue of fixing the kidney by needle and suture passed through the cortex, theoretically he had always been opposed to it, and he felt assured that, sooner or later, cases would appear showing that an injury had been done to the kidney. Only a few years ago it was thought perfectly safe to leave a permanent suture, such as silkworm gut or silver, buried, fastening the kidney to the back muscles. That was soon proven to be a fallacy. He could not see the advisability of leaving the wound open for granulations, for, after all, it is simply the surface of the kidney which adheres, and it is held no more firmly whether the surface to which it is adherent be granulation tissue 2 inches thick or merely the adhesion which would take place between two raw surfaces.

His cases were of two unmarried women who were admitted to his service in the Woman's Hospital with markedly displaced or floating right kidneys, and with all of the symptoms attending such trouble. An operation for fixation was unquestionably advised in both cases and performed according to the following method:

The patient being placed in the usual position on her side and abdomen, the vertical incision was made and the kidney caught with the fingers and pulled through the opening. Then with the forefinger and thumb of the left hand as a guide, a bunch of median-sized catgut was carried around the kidney by a Cleveland ligature carrier. This was carried around the kidney just below the pelvis, between the kidney and the ureter. Then, with the same carrier, the sutures were carried through the muscular fibers, or aponeurosis, in the upper edge of the wound. The sutures were then temporarily left until the capsule of the kidney could be cut and pushed back about half an inch on each side of the incision. With fine catgut the capsule was drawn back and fixed to the under surface of the muscle. The bunch of catgut sutures was then tied, holding the kidney firmly up against the under surface of the muscle to which it was wished to have it adhere. The muscular fibers which had been torn and the muscular fascia were brought together with a running suture of catgut. The wound was then thoroughly washed out with a normal salt solution and closed with catgut. The patient was put to bed on her back and the foot of the bed slightly raised, and she was kept in that position for at least two weeks. By that time the catgut had been absorbed and the wound healed. She was gradually allowed to assume the sitting posture and, at the expiration of three weeks, she was allowed to leave her bed. But before allowing her to assume the upright position a snug-fitting abdominal supporter was adjusted, and she was directed to adjust it before leaving the bed for at least a year. No injury had been done the kidney. The operation was attended with no danger and with but little inconvenience to the patient. Median-sized catgut was used, just large enough to prevent cutting into the kidney tissue and sufficiently large to suspend. With the finger in the incision, passing it around the kidney, feeling that the ureters and blood vessels were out of the way, all outside of the proposed line of suturing, the sutures were then passed around the kidney, hugging it closely, outside its capsule, between it and the ureter. The sutures penetrated into the fatty and cellular tissue. When the sutures were tied they were tied higher up than the level of the plane of the kidney so as to keep the kidney pushed up underneath the ribs. Dr. Senn's method was similar to this, but he used gauze, which was passed around the kidney. The wound was left open and the gauze removed at the expiration of three or five days; of course, in such an instance, the wound had to heal by granulations. When the capsule was pulled back it was sewn to the under surface of the muscle and so attached by its raw surface, and that was the only part of the kidney that becomes adherent. Even when you penetrate the kidney with a needle armed with silkworm gut, with catgut, or other material, the object simply was to hold it there until adhesions took place, when the sutures are withdrawn. His sutures, which suspend the kidney in position, last fully as long as those sutures which penetrate the kidney tissue itself. He had never seen any injury, nor did he know of any case, where any injury had been done the kidney by the old method, but theoretically he had always been opposed to it. He did not think we could pass a ligature through the kidney without injuring it. He thought the method described of holding it in place did equally as well, and was a better procedure than when the kidney tissue was penetrated.

DR. GEORGE H. MALLETT said that the question of floating, or movable, kidney interested him very much. He had not settled in his mind the value of the operation as a means of relief. A good many men have stated that 20 per cent. of all the patients who apply for gynecologic treatment are cases of floating kidney.

A Case of Utero-Intestinal Fistula.

DR. L. GRANT BALDWIN read a paper with this title. He wished to report the case on account of its rarity and the results obtained. This occurred in a woman, about 37 years old, who was confined in April, 1900. About the third day after her confinement she became septic, and was then curetted by her family physician, who was a most competent obstetrician. Nothing untoward happened and the symptoms of sepsis disappeared. At the end of the tenth day after the curetting, fecal matter was noticed coming through her vagina.

At the end of two weeks after the curetting he was asked to see her. At that time she had a temperature of 101, pulse 120, foul tongue, and she looked rather wretched. The physician had told him that fecal matter appeared through her uterus, but he was inclined to be rather skeptical, thinking that the fistula was in the vagina. By placing the patient in the Sims position and thoroughly exposing the parts, fecal matter could be seen oozing out of the cervix. Her bowels had not moved by way of the rectum for several days. Intestinal gas passed through the uterus. There was a mass one-half the size of a fetal head in the left iliac fossa immediately connected with the cul-de-sac. There being no inflammatory material present, and the patient being in fairly good condition, it was thought advisable to wait and keep the uterus and vagina as clean as possible. The fever and pulse began to get less, her appetite improved and, at the end of two weeks after that, some little gas passed by way of the rectum. She gradually improved, and in the early part of June went to the country. About the middle of July he was told that fecal matter had not passed by way of the vagina for several days. She gained in flesh and her condition became most satisfactory. When she returned from the country, about the middle of September, she had gained 20 pounds in flesh, and she was the picture of health. Except for a little thickening back of the uterus on the right side she is a perfectly well woman and has menstruated for two months normally, a normal amount, and without pain.

The question as to how this condition occurred and how it healed up was an interesting one to him, and his only opinion was one of speculation. Probably the uterine wall was injured at the time she was curetted and a localized peritonitis occurred, with adhesions of the bowel to the sigmoid flexure, because by rectal examination nothing could be felt. It must have occurred low down, because the fecal matter was not the contents of the small intestine; the food was thoroughly digested and resembled the products of digestion. As the uterus contracted, as involution went on, the sigmoid remaining stationary, the opening was stretched out into a canal, and, as the uterus went down further and further in the pelvis, it still more stretched and finally became obliterated in that way. That is the most probable way in which healing occurred that he could imagine.

DR. J. DOUGAL BISSELL asked Dr. Baldwin if she had ever had a laceration and if it was an instrumental delivery.

DR. BALDWIN replied that there was an old laceration of the perineum and cervix, but it was not marked. There were no symptoms of rupture of the uterus present whatever. The labor was a normal one. The curettage was done for the sepsis.

DR. P. F. CHAMBERS asked if a sharp or a dull curette was used, because he thought the sharp curette was a most dangerous instrument. After parturition he had made it a rule never to use it. He had seen a number of cases where he had been satisfied that injury had been done by the sharp curette. The sharp curette cuts in soft tissue and leaves a number of raw surfaces for the absorption of septic material. The dull curette will do everything that the sharp one does, and does no harm.

DR. JOSEPH E. JANVRIN did not think one should ever use the sharp curette after confinement, on account of its danger. Personally he never used it, but always the dull curette, using a good big one which is large enough to catch hold of anything contained within the uterine cavity and pull it down. The instrument that he liked was called Mundé's, which was very light, but larger than the Thomas curette. Any case where the uterus is subinvoluted and with the cavity quite large required a good-sized blunt instrument to get hold of and pull down any material within that organ.

DR. S. SHAILER suggested as a cause of the fistula that perhaps it was due to the gut passing into the cavity of the uterus through an opening made by the curette, the pressure externally pushing the bowel in. The adhesion formed between the bowel and uterus was so firm that the feces did not get outside the uterus into the peritoneal cavity, so accounting for the non-appearance of peritonitis.

NEW YORK ACADEMY OF MEDICINE.—SECTION ON PEDIATRICS.

Stated Meeting May 9, 1901.

Dr. W. L. Stowell in the chair.

An Investigation of Adenoids, Especially with Reference to Bacterial Infection.

DRS. M. NICOLL, JR., and A. J. LARTIGAU had made a careful bacteriologic investigation of 11 adenoids, with the result that 5 of the specimens gave sterile tube and plate cultures, while the remainder showed a few micro-organisms, chiefly streptococci. Where tests had been made for virulence, these organisms had been found to be non-virulent. They had also examined 75 adenoids for tuberculosis, using half of each specimen for inoculation experiments and half for microscopic study. Of the cases, 10 per cent contained both tubercle bacilli and the histological lesions of tuberculosis, while 5.3 per cent contained tubercle bacilli without any definite lesions of tuberculosis. At least 10 sections had been examined from each adenoid. This investigation also comprised a study of 46 specimens with regard to the thickness of the epithelium. From this it was learned that of the 46 specimens studied, 13 showed a normal thickness of epithelium, and the others great variations from the normal. In the specimens containing tubercle bacilli these organisms were in all situated rather near the surface, and it appeared that the adenoid had become infected from the surface without any break in the epithelium.

DR. NICOLL commented on the significance of the fact that 10 per cent. of these cases had shown tubercular foci in the respiratory tract. He was inclined to think that in the near future tubercular adenoids would assume a more important rôle than previously.

A Dozen Cases of Spinal Analgesia in Operations on Children Under Six Years and a Half.

DR. W. S. BAINBRIDGE had used this method of inducing anesthesia in various operations upon children, including osteotomy, circumcision, cauterization of the rectum for prolapse, and the radical cure of hernia. The youngest of these patients was four months. He had carefully compared the action of cocain and beta-eucain, and had demonstrated that the latter was unreliable and very unsatisfactory. The speaker said that he had reported the only two cases in literature in which subarachnoid injections of cocain had produced a complete analgesia of the entire body.

DR. J. LEONARD CORNING said that he had carefully refrained from saying much in the recent discussions of this method, yet he felt that it was not likely to be discarded by surgeons. For that very reason it should be thoroughly studied, and it was quite probable that it would be considerably modified. He had endeavored himself to do this, as, for example, by varying the specific gravity of the fluid injected, and by substituting cataphoresis for puncture of the membranes.

DR. CHARLES M. FORD, who had witnessed most of Dr. Bainbridge's operations under cocain analgesia, emphasized the value of the method in children, and commented upon the remarkable calmative action of the cocain injection even in very nervous and apprehensive children.

DR. W. E. YOUNG said that as house surgeon of the hospital in which these operations had been done he had had an excellent opportunity of watching these patients for a number of months. Bad effects had not been observed, and rarely any great variation in the body temperature. Ethyl chlorid had been used in connection with the injections of cocain, and although the injections had been given at varying levels, it had not greatly affected the result. Anesthesia had been induced in periods varying from half a minute to fifteen minutes after the completion of the injection. All of the patients had retained tactile sensibility and the ability to distinguish between heat and cold, but none had experienced pain from the application of the actual cautery. The only unpleasant sequela had been headache, and this could be quickly relieved

by the hypodermic injection of 1/100 of a grain of nitroglycerin, and could sometimes be altogether prevented by the previous administration of bromid of sodium. Most of the patients had been able to retain food within a few hours and had slept well the first night. In no case had there been infection.

DR. J. H. LARKIN said that he had been called upon to make an autopsy upon an apparently healthy woman who had suddenly died six hours after the removal of her tubes and ovaries under analgesia induced by intraspinal cocainization. The respiratory apparatus and all of the viscera had been practically normal, and the same was true of the brain. Corresponding to the site of injection was a punctate mass involving the periphery of the cord.

DR. BAINBRIDGE said that he had carefully studied the 1080 reported cases and had been unable to find a death wholly attributable to this method. If the injection were made very low down, the cord could not be injured.

CHICAGO PATHOLOGICAL SOCIETY.

Meeting held May 13, 1901.

The president, Dr. L. Hektoen, in the chair.

The Cellular Changes in Tubercular Meningitis.

DR. I. B. DIAMOND stated that plasma, lymphoid and phagocytic cells form the greater portion of the cell-infiltrations in the vascular and extravascular areas of the leptomeninx in acute tubercular meningitis. The plasma and lymphoid cells emigrate largely from the lymph spaces of the arterial adventitia and from the finer capillaries. They proliferate largely by indirect division; a certain number, however, are derived from lymphoid cells. There are two kinds of phagocytes, 1, those which proliferate from the endothelial lining of the capillaries and lymph spaces, and 2, those from the subendothelial intimal connective tissue.

The most important of the vascular changes—the tubercular endarteritis—develops in the following manner: Plasma and lymphoid cells accumulate underneath the endothelium of the intima; later the subendothelial intimal connective-tissue cells are found mixed with the former. They proliferate next to the elastic coat, are to a certain degree phagocytic and resemble epithelial cells. They also run together and form giant cells, and in this manner characteristic intimal tubercles develop. Changes of the endothelial lining of the arteries occur later, especially when there is caseation or hyaline degeneration of the collection underneath.

Of interest is the great production of plasma cells which is analogous to the cell changes described by Councilman in acute interstitial nephritis, while on the other hand, the production of phagocytic cells is analogous to the cell changes described by Mallory as occurring in typhoid fever.

Bubonic Plague Specimens.

DR. LEWELLYS F. BARKER presented gross and microscopic specimens of the buboes and internal organs removed from Chinese, dead of plague, in San Francisco. The demonstration was accompanied by a brief description of the pathology and pathogenesis of bubonic plague. In the bubonic form of the disease the lesions in the lymph glands and surrounding tissues—edema, hemorrhage and necrosis—are very characteristic. The changes in the spleen are more marked in the septicemic form than in the bubonic form. The specimen of spleen under the microscope showed extensive necrosis of the splenic framework and pulp, with wandering in of polymorphonuclear leucocytes.

Primary plague pneumonia is distinguished from aspiration pneumonia and from embolic pneumonia occurring as complications of plague. The enormous number of bacilli present, the abundance of blood in the exudate, and the small part played by fibrin are interesting features.

The question of portal of entry was discussed in connection with the various clinical types, and an effort was made to explain the fact that local lesions in the skin and mucous membranes and lymphangitis are rarely present, the first outspoken lesions occurring in the nearest packet of lymph glands.

Ovarian Follicles.

DR. LEO LOEB demonstrated microscopic sections showing the difference between the atresia of follicles in different stages of maturity; also microscopic sections of two ovaries of a guinea-pig in which all follicles presented the picture of hypertrophy of the epithelium and in which the atresia without exception started by the ingrowth of connective tissue and capillaries into the follicular epithelium. Two slides were demonstrated showing follicles in the process of atresia, each one of which contained two ova. In one of these two follicles both eggs showed progressive changes, in the other follicle one ovum was unchanged and well preserved, the other ovum was segmented. In a third atretic follicle, of which a slide was shown, in which three ova were present, two of these were unchanged, the third ovum had undergone certain changes, the exact nature of which could not with certainty be determined. Another specimen showed a structure resembling very much a small corpus luteum, in the center of which, however, two successive sections demonstrated the presence of an ovum. At present it must be left undecided, if in this case the ovum of a ruptured follicle was retained and a corpus luteum had formed around it, or if under certain conditions a follicle which had not ruptured previously might in the stage of atresia give rise through hypertrophy to a structure similar to a small corpus luteum.

Gastrolith.

DR. MAXIMILIAN HERZOG presented a gastrolith composed of persimmon seeds which had caused perforation of the stomach and death in a 3-year-old boy in the practice of Dr. Cargile, of Bentonville, Ark.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Treatment of Neurasthenia with Anemia.

Dr. J. P. Miller recommends the following in the neurasthenic state accompanying disturbances of the gastro-intestinal tract:

℞.	Ext. Sumbul	gr. i	06
	Asafetidæ	gr. ii	12
	Mist. Blaud.	gr. iii	18
	Acidi arsenosi	gr. 1/30	002
	Strychninæ sulphatis	gr. 1/60	001
	Phosphori	gr. 1/100	0006

M. Sig.: One such pill three or four times a day on an empty stomach.

For Tympanites in Infants.

℞.	Sodii sulphocarbolatis	gr. v	30
	Syr. aurantii amari	℥ss	6
	Aq. menthæ pip.	℥vi	24

M. Sig.: One small teaspoonful three times a day.

Treatment of Psoriasis.

E. J. Angle, of Lincoln, Neb., states, in *Western Med. Rev.*, that arsenic should never be given during the acute stage of psoriasis, but when once determined upon it should be continued for several months or even years. The initial dose should be small and taken after meals, well diluted. He prescribes arsenic in the following form:

℞.	Liq. potass. arsenitis	℥ii	8
	Aq. menth. pip., q. s. ad	℥iv	128

M. Sig.: One-half to two teaspoonfuls after each meal in water; or:

℞.	Acidi arsenosi	gr. ii	12
	Pulv. piperis nigræ		
	Pulv. glycyrrhizæ rad. āā	gr. xl	2 66

M. Ft. pilulæ No. xl. Sig.: One pill after meals.

Treatment of Tuberculosis.

The following is recommended by Fliesburg, to be given hypodermically:

R.	Iodi puri cryst.	gr. xxiiss	1 50
	Phosphori puri	gr. iv	25
	Thymol		
	Menthol, āā	gr. xl	2 66
	Guaiacol	gr. xx	1 30
	Ol. Morrhuæ steril	℥iss	50

M. Sig.: Inject one to three syringefuls once daily every four to eight days.

Treatment of Infantile Eczema.

Kistler, in *L. Mod. Med.*, recommends the following as an ointment, in infantile eczema, to relieve the itching:

R.	Acidi salicylici	gr. xv	1
	Bismuthi subnit.	℥iv	16
	Pulv. amyli	℥iss	48
	Ung. aq. rosæ	℥ii	64

M. Sig.: To be applied locally.

He also recommends the mild chlorid of mercury to be given twice a week to increase elimination from the bowels and kidneys.

Treatment of Chronic Purulent Otitis Media.

In the treatment of a case of chronic purulent otitis media, Dr. J. F. McKirnon, in *Med. News*, states that we should keep three objects in view: 1, the cure of the otorrhea; 2, the improvement of the hearing; 3, the relief of the distressing subjective sounds, if present. After thoroughly cleansing the ear he advises the following as a non-irritating germicide, which has been of benefit in his hands:

R.	Acidi boracici	gr. xx	1 33
	Sol. hydrarg. bichlor. (1-1000)	℥ii	8
	Spts. vini rectificati, q. s. ad	℥i	32

M. Sig.: Cleanse the ear thoroughly.

In cases where there is a large amount of granulation tissue present he recommends a solution of adrenal tissue as an application, especially when it is properly applied to the base of the growths.

The Preventive Treatment of Hepatic Colic.

According to Chauffard, in the *St. Louis Med. Rev.*, among the best mendicaments for preventing attacks of hepatic colic are the salicylate and benzoate of sodium. He administers the following, varying the dose according to the severity of the case:

R.	Sodii salicylatis		
	Sodii benzoatis, āā	gr. ii	13

M. Ft. capsula No. i. Sig.: One such capsule at meal time.

He is in the habit of adding to the above combination, one or two grains of Carlsbad salts. This treatment he continues for ten or twenty days in the month, for a year or longer. He states that if this line of treatment is persisted in, a cessation of the crises will be obtained.

Acne.

Dr. Allen, in *Post-Grad.*, states that disturbances in uterine function is often a cause of acne in women. Especially is this the cause in the variety limited to the region of the mouth and chin. He recommends, in such cases, the following:

R.	Ext. ergotæ flu.	℥iiss	10
	Tinct. ferri chloridi	℥iss	6
	Glycerini	℥ss	16
	Ext. cascaræ fluidi	℥i	4
	Syr. simplicis	℥ii	64

M. Sig.: One teaspoonful three times a day in water.

In cases where the superficial epidermis has been rubbed off, leaving the follicles exposed to local infection, he recommends the following:

R.	Ichthyol	gr. x	66
	Resorcin	gr. x	66
	Pulv. calaminæ	gr. xx	1 33
	Ung. zinci oxidi	℥i	32

M. Sig.: Apply locally three times a day.

Erythematous Eczema.

In cases of erythematous eczema Dr. Allen advises the following:

R.	Pulv. calaminæ præp.	gr. xx	1 33
	Zinci oxidi	℥ss	2
	Glycerini	℥iii	12
	Aq. camphoræ	℥iv	128

M. Sig.: Shake, apply locally and allow to dry.

Dermatitis Following Trichophytosis.

In dermatitis following ringworm of the scalp in children he uses the following:

R.	Acidi carbolici	gr. x	66
	Ung. picis liq.	℥ii	8
	Ung. acidi borici	℥vi	24

M. Sig.: Spread upon a piece of gauze and apply to the bald areas. After the dermatitis has subsided an application of chrysarobin or ointment of ammoniated mercury may be substituted.

Local Application of Guaiacol.

The *New Eng. Med. Month.* recommends guaiacol applied locally as a safe and reliable remedy in relieving pain of arthritis deformans, acute or muscular rheumatism, sciatica, orchitis, and epididymitis. One part of guaiacol to ten or fifteen parts of vaselin or lanolin should constitute the application.

For Insect Stings.

The following applications are recommended by Bernbeck, in the *Jour. des Practiciens*, as acting promptly in allaying the pain and inflammation of insect stings:

R.	Collodion (flexible)	℥x	40
	Acidi salicylici	℥i	4

M. Sig.: Apply locally; or:

R.	Collodion	℥iii	12
	Hydrarg. chloridi corros.	gr. iss	09

M. Sig.: For local application.

For the Removal of Corns.

R.	Acidi salicylici	℥i	4
	Acidi lactici	℥i	4
	Cerati simplicis	℥viii	32

M. Sig.: Apply locally night and morning.

Or:

R.	Acidi salicylici	℥i	4
	Resinæ	℥ii	8
	Adipis	℥iv	16
	Olei amygdalæ dulcis	℥ii	8

M. Sig.: Apply locally.

Seasickness.

The following is recommended by the "Encyclopedia of Med." in treatment of seasickness:

R.	Acidi citrici	℥ii	8
	Aq. destil.	℥iv	16

Misce, and mix with:

	Potassii bromidi	℥i	4
	Potass. bicarb.	℥i	4
	Aq. destil.	℥iv	128

M. Sig.: Combine a tablespoonful of each and drink while effervescing.

Three days before sailing and for three days after, the following:

R.	Ext. taraxici		
	Ext. colocynthidi co. āā	gr. xx	1 33
	Ext. hyoscyami	gr. iii	18
	Ext. nucis vom.	gr. v	30
	Massæ hydrarg.	gr. xv	1

M. fiant pil. No. xx. Sig.: One or two pills to be taken at night.

FOR THE NAUSEA AND VOMITING.

R.	Spts. chloroformi		
	Tinct. nucis vom., āā	gtt. x	66
	Tinct. lavendulæ comp.	℥i	4
	Aq. destil.	℥x	40

M. Sig.: Shake and take a teaspoonful every hour until vomiting has ceased.

Medicolegal

Bars Opinion from Appearance at Time of Treatment.—The Supreme Court of Michigan holds, in the case of Rose vs. the Supreme Court, Order of Patricians, that the statute will not allow a physician to give an opinion based upon the appearance of a patient at the time of treatment. The case, it points out, is very different from where the physician was not asked for any information or knowledge of the patient's appearance while he treated him, but, having seen him many times after his employment had ceased, was asked for an opinion based on patient's appearance, expressly limited to the latter period.

Compensation to be Fixed by Board of Health.—The Supreme Court of Michigan, in explaining the case of Pease vs. the Common Council of the City of Saginaw, says that the party bringing it, a physician, under the direction of the board of health of the city, had performed professional services for the city in certain contagious disease cases. He presented his bill for $480 to the board of health, and that body allowed it at that sum. The bill was then certified to the controller and the committee of the council on finance and auditing, who, after taking testimony as to the value of the services, reached the conclusion that the usual charge was $3 per visit, instead of $5, as charged in this bill, and thereupon reported to the common council recommending that the claim be allowed at $292, and that the latter sum be tendered in full settlement of the claim. This recommendation was adopted by the common council, the bill was allowed at that sum; and the order drawn therefor was accepted. Subsequently a petition for mandamus was filed, and it is in that case which the Supreme Court of Michigan here holds that an order should be entered directing the council to pay the amount found due by the health board. It holds that inasmuch as the ordinance creating the city board of health provided that the latter should possess all the powers and perform all the duties imposed upon boards of health of townships, that the value of the services of a health officer must be determined by the city board of health, the board of health in townships being empowered to fix the compensation of health officers and to audit all fees and charges of persons employed by them in the execution of the health laws and their own regulations. Nor does it consider that this was rendered otherwise by a provision in the city ordinance mentioned that any and all expenses incurred by the health officer or assistant health officers in the removal or abatement of any nuisance or in the putting of any premises in a sanitary condition should be certified to the city controller, and should be audited and paid in like manner as other claims against the city, etc. And the acceptance of a part of the amount fixed by the board of health, the court holds, will not preclude the health officer from receiving the whole.

Prohibiting Burials Within City Limits.—The Supreme Court of Oregon says, in the case of Wygant vs. McLauchlan, that a cemetery is not a nuisance, except conditions be present which corrupt or foul the atmosphere by unwholesome or noxious stenches, or impregnate the water of wells or springs in the vicinity by percolation through the soil, thereby endangering the public health; hence the authorities agree that it is not nor can it be regarded a nuisance per se, or in and of itself. And whether the act of depositing a dead body in its place of sepulture is the commission of a nuisance depends entirely upon its proximity to the habitations of the living and the manner in which it is accomplished. Moreover, under the doctrine that a city authorized by its charter to declare what shall constitute a nuisance cannot declare that to be a nuisance which is neither such in itself nor under the common law nor made so by statutory enactment, the court holds that the city council of such a city is not authorized to declare generally that to deposit a dead body in any portion of the inhabited district shall constitute a nuisance, when it is conceded that such an interment may be made in the usual way in some sections thereof, without giving offense to the senses of any human inhabitant, or endangering in the least measure the health of the community. Power "to provide for the health, cleanliness, ornament, peace, and good order of the city," the court pronounces no doubt ample to authorize the city to adopt reasonable measures prescribing rules and regulations, as it respects the place and manner of burials within the limits; but it declares that the city can not arbitrarily prohibit them, unless such prohibition be a reasonable exercise of the power. There being within the city limits considerable tracts of land which were sparsely inhabited, so that, for example, interments could be made on some of them so that they would be distant a half mile or more from any human inhabitant or public thoroughfare, it was assuredly not a reasonable regulation, as a police provision, or for the conservation of the health or good order of the community, the court holds, to exclude burials from the whole territory save certain districts enumerated by the ordinance. On the other hand, if the legislature had granted special and express power to exclude burials from within the city limits, the adoption of such an ordinance would be a legitimate exercise thereof, and no one could question its validity.

Doctrine of Ordering Physical Examinations Reviewed.—The Supreme Court of Indiana says, in City of South Bend vs. Turner, an action instituted by the latter party, that while the question of ordering the physical examination of the plaintiff in a personal injury case has but recently engaged the attention of the courts of last resort, the fundamental principle is an ancient doctrine of the common law. As such, it was limited, it is true, to a few classes of cases, among them mayhem and divorce cases wherein impotency was charged. But as the sources of evidence have been extended, to parties and in many other ways, its application has been expanded to meet new conditions. The doctrine rests upon the principle that justice is the object of judicial investigation, and that courts charged with its adminisration, as a necessary means of attaining that end, have inherent power to require the production of the most infallible evidence. That its application to personal injury cases is a modern practice does not disprove its common-law origin. Beginning with a Missouri case, in 1873, there have followed many adjudications upon the power of the trial court to order a physical examination of the plaintiff in suits for personal injuries upon the request of the defendant. In this first case, the power, upon slight consideration, was denied. In 1877, in a well-considered Iowa case, the power was affirmed. Following this lead, the states of Alabama, Arkansas, Georgia, Kansas, Kentucky, Michigan, Missouri, Minnesota, Nebraska, Pennsylvania, Ohio, Texas and Wisconsin have reasserted the rule as announcer in the Iowa case. The cases wherein they have done it establish the following propositions: 1. That trial courts have the power to order the medical examination by experts of the injured parts of a plaintiff who is seeking to recover damages therefor; 2, that a defendant has no absolute right to demand the enforcement of such an order, but the motion therefor is addressed to the sound discretion of the trial court; 3, that the exercise of such discretion is reviewable on appeal, and correctible in cases of abuse: 4, that the examination should be applied for and made before entering upon the trial, and should be conducted under the direction of the court, whenever it fairly appears that the ends of justice require a more certain ascertainment of important facts which can only be disclosed or fully elucidated by such an examination, and such an examination may be made without danger to the plaintiff's life or health or the infliction of serious pain; 5, that the refusal of the motion when the circumstances appearing in the record present a reasonably clear case for examination, under the rules stated, is such an abuse of discretion in the trial court as will operate to reverse a judgment for the plaintiff; 6, that such order may be enforced, not by punishment as for a contempt, but by delaying or dismissing the proceeding. The discretion lodged in the trial court, as fairly deducible from the decisions, is a sound discretion, based solely upon legal considerations. When serious and permanent injuries are claimed by the plaintiff, and he or she has submitted to examination by a chosen physician or surgeon, who appears as a witness in the plaintiff's behalf, and the nature, extent, and effect of the injury are to be deduced from objective conditions, and so fully from no other source, no degree of sentiment will justify a denial of the motion. When it becomes a question of

probable violence to the refined and delicate feelings of the plaintiff, on the one hand, and probable injustice to the defendant, on the other, the law will not hesitate; the court, in making such orders, with respect to time, place, and persons, in every case, having such due regard for the feelings of the plaintiff and proprieties of the case as the ends of justice will permit. So far as the court's researches have revealed, the federal supreme court now stands alone in denial of the power. The decisions of New York were confused, and the rule both affirmed and denied in inferior courts, until established by legislative enactment in 1893. In Illinois, the supreme court, in 1882, disposed of the question in a single line, as follows, "The court had no power to make or enforce such an order," but, in subsequent decisions, while not expressly overruling that one, has recognized the existence of the power when properly and timely invoked. Indiana, also, now falls into line, and upholds the power.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, June 8.

1 *What I Have Learned from One Hundred and Sixty-one Operations for the Relief of Senile Hypertrophy of the Prostate Gland. (To be continued.) Orville Horwitz.
2 Progress of Medicine in the United States During the Nineteenth Century. Charles W. Dulles.
3 *A New Clinometer for Measuring Torsional Deviations of the Eye, Delimiting Paracentral Scotomata and Metamorphosia and Detecting Simulation of Blindness. Alexander Duane.
4 Membranous Enteritis Erroneously Treated for Phthisis—Presentation of Patient. J. Preston Miller.
5 *The Knee-Jerks in Chorea. Augustus A. Eshner.
6 Heredity as a Factor in Mental Deficiency. T. Alexander MacNicholl.

Medical News (N. Y.), June 8.

7 *The President's Address, American Medical Association. Charles A. L. Reed.
8 *Internal Medicine in the Nineteenth Century. N. S. Davis, Jr.
9 *The Value of Clinical Microscopy, Bacteriology and Chemistry in Surgical Practice. John A. Wyeth.
10 *The Progress and Tendency of Hygiene and Sanitary Science in the Nineteenth Century. George M. Kober.

American Medicine (Philadelphia), June 8.

11 *The President's Address, American Medical Association. Charles A. L. Reed.
12 *The Value of Clinical Microscopy, Bacteriology and Chemistry in Surgical Practice. John A. Wyeth.
13 *The Progress and Tendency of Hygiene and Sanitary Science in the Nineteenth Century. George M. Kober.
14 *Internal Medicine in the Nineteenth Century. N. S. Davis, Jr.

Medical Record (N. Y.), June 8.

15 *The President's Address, American Medical Association. Charles A. L. Reed.
16 *Internal Medicine in the Nineteenth Century. N. S. Davis, Jr.
17 *The Value of Clinical Microscopy, Bacteriology and Chemistry in Surgical Practice. John A. Wyeth.
18 *The Progress and Tendency of Hygiene and Sanitary Science in the Nineteenth Century. George M. Kober.

Boston Medical and Surgical Journal, June 6.

19 *The Value of Clinical Microscopy, Bacteriology, and Chemistry in Surgical Practice. John A. Wyeth.
20 *The Surgical Treatment of Gastric Ulcer, with Report of Cases. F. B. Lund.
21 *Idiopathic Abscess of the Kidney. A. T. Cabot.
22 *The Effects of Training; Second Paper. Eugene A. Darling.

St. Louis Medical Review, June 1.

23 *The Use and Abuse of Anesthetics. Alfred Roulet.
24 Application of Bacteriologic Examinations to Clinical Surgery. Hermann B. Gessner.
25 Acute Active Cerebral Hyperemia, with Report of Two Cases. A. C. Brown.

June 8.

26 *The Value of Clinical Microscopy, Bacteriology and Chemistry in Surgical Practice. John A. Wyeth.

New York Medical Journal, June 8.

27 *The Address of the President of the American Medical Association. Charles A. L. Reed.
28 *Internal Medicine in the Nineteenth Century. N. S. Davis, Jr.
29 *The Value of Clinical Microscopy, Bacteriology and Chemistry in Surgical Practice. John A. Wyeth.
30 *The Progress and Tendency of Hygiene and Sanitary Science in the Nineteenth Century. George M. Kober.

Cincinnati Lancet-Clinic, June 8.

31 *Diseases of the Gum Borders and Sockets of the Teeth. C. M. Wright.
32 The Oppositions to Sanitary Science. Brose S. Horne.
33 Atmospheric Causes of Disease. Davis R. Emmons.
34 An Outlook. H. H. Spiers.
35 Nearly Bloodless Cesarean Section. P. D. Covington.
36 Appendicitis. Jacob M. Hall.
37 Nasal Surgery. B. Merrill Ricketts.
38 Membranous Enteritis. Mark A. Brown.
39 Is There an Inherited Tendency to Appendicitis? Wm. H. DeWitt.

Virginia Medical Semi-Monthly (Richmond), May 10.

40 Insects as Disseminators of Disease. Ch. Wardell Stiles.
41 Scarlet Fever in the District of Columbia. J. E. Walsh.
42 Report of Cases: 1. Eczema Squamosum; 2. Ambulatory Typhoid Fever; 3. Lacerated Cervix Uteri, Cervical Endometritis; Prolapsed and Subinvoluted Uterus—Operation under Cocain Hypodermically—Remarks on Bright's Disease and Oxaluria; 4. Hemorrhoids Removed with Angiotribe; 5. Recurrent Appendicitis Treated without Knife. Bittle C. Keister.

May 24.

43 Empyema of the Frontal and Ethmoidal Sinuses, Complicated with Orbital Abscess. D. Kerfoot Schute.
44 Devirgination. N. E. Aronstam.
45 Medical Aspects of Cancer of the Breast. William Osler.
46 Problem Involved in the Treatment of Eclampsia, with Illustrative Cases. J. Whitridge Williams.
47 Sweet Chalybeate Springs, Va. T. M. Baird.

Medical Age (Detroit, Mich.), May 25.

48 *The Legal and Medical Aspect of Food Adulteration. H. W. Wiley.
49 Importance of Clinical Teaching—Pulmonary Tuberculosis. Louis F. Bishop.

Pennsylvania Medical Journal (Pittsburg), May.

50 Medicine: Past and Present. H. D. Hockenberry.
51 The Electro-magnet in Eye-Surgery, with Presentation of One, with Demonstrations, and Report of a Number of Cases. Edward B. Heckel.
52 Typhoid Fever and Its Treatment by the Woodbridge Method. John M. Bertolet.
53 Leukemia. Adelaide M. Underwood.
54 Chloroform and Ether—Their Administration. W. A. Marsh.
55 A Series of One Hundred Appendicitis Operations Performed During the Last Thirty-one Months. Evan O'Neill Kane.
56 The Closing of the Century. R. H. Milnor.
57 New Remedies and New Uses of Old Remedies. T. C. Rich.

Medicine (Chicago), June.

58 *Some Points of Practical Importance in the Symptoms and Treatment of Acute Pneumonia. Robert H. Babcock.
59 *A Description of the Appearances in Five Cases of Diaphragmatic Hernia. C. A. Parker.
60 *Neurasthenia. Sanger Brown.
61 *The Diagnosis and Variations of Epilepsy as Ordinarily Recognized. Harold N. Moyer.
62 Prostitution: Its Suppression or Control. F. R. Sturgis.

Maryland Medical Journal (Baltimore), June.

63 A Notice of the Life and Writings of Valescus De Tarenta. Frederick P. Henry.
64 An Unusually Large Polypus Presenting in the Pharynx. A. V. Milholland.

Canada Lancet (Toronto), May.

65 Filariae and Filariasis. J. H. Elliot.
66 Dysmenorrhea. D. Gilbert Gordon.
67 A Case of Multiple Neuritis Succeeding Typhoid Fever with Permanent Paralysis. R. Parsons and Chas. P. Lusk.
68 The Prevention of Tuberculosis. J. E. Elliott.
69 A Case of Ainhum. H. B. Anderson.

Albany Medical Annals, June.

70 *Relation of the Sympathetic Nervous System to Functional Amblyopia. Harry S. Pearse.

Medical Sentinel (Portland, Ore.), May.

71 Some Points on the Diagnosis of the More Common Forms of Nasal Obstruction, and Their Radical Relief. E. DeWitt Connell.
72 Gunshot Wound of the Lung, Operation, Recovery. H. H. Hanson.

Toledo Medical and Surgical Reporter, June.

73 The Relation of the Medical Profession to Education. Wm. D. Stewart.
74 The Best Means of Using Opportunities. Campbell Coyne.
75 Cathartics. Harrison Hathaway.
76 Rupture of the Eye-ball. Charles Lukens.

Annals of Surgery (Philadelphia), June.

77 *A Loop Around the Hyoid Bone as an Aid in Narcosis During Certain Operations on the Lower Jaw and in the Mouth, and in After-Treatment. Christian Fenger.
78 *Excision of the Intact Gasserian Ganglion. Willard Bartlett.
79 *The Pathology of Trigeminal Neuralgia, Illustrated by the Microscopic Examination of Two Gasserian Ganglia. Sidney I. Schwab.
80 Osteoplastic Amputation of the Arm: With the Description of a Useful Saw for Osteoplastic Amputations. Willy Meyer.
81 Cases of Laceration of the Spleen and of the Kidney Followed by Recovery After the Removal of the Injured Organ. Samuel J. Mixter.
82 *The Operative Treatment of Cirrhosis of the Liver. Charles H. Frazier.
83 Angina Ludovici. George G. Ross.
84 Complications in Fractures Involving the Hip-joint. John E. Owens.
85 Fracture of the Pelvis. Thomas M. Paul.
86 A New Knot-tightener. Hugo Ehrenfest.
87 The Value of the X-ray in Surgery. J. Rudis-Jicinsky.

Therapeutic Gazette (Detroit), May 15.

88 Hemorrhagic Malarial Fever—Its Treatment. W. E. Sparkman.
89 The Treatment of Malarial Hematuria. T. H. Watkins.
90 The Treatment of Malarial Hemoglobinuria. James M. Parrott.
91 A Case Illustrating Extraordinary Idiosyncrasy to Quinin. H. A. Hare.
92 General Considerations of Treatment of Placenta Previa. Charles P. Noble.
93 Gastric Ulcer: Its Etiology, Symptomatology, and Diagnosis, with Special Reference to Treatment. (Concluded.) D. D. Stewart.

Ophthalmic Record (Chicago), May.

94 Rupture of the Sphincter of the Iris and V-Shaped Rupture of the Choroid on the Nasal Side from Contusion of the Eyeball. G. E. de Schweinitz.
95 *Pterygium Operation, Method by Subconjunctival Antero-inferior Fixation. John O. McReynolds.
96 *The Closed Artificial Eye. J. L. Borsch.
97 Successful Removal of Steel from Vitreous. Clark W. Hawley.

Oklahoma Medical Journal (Guthrie), May.

98 Chorea. D. W. Griffin.
99 Early Diagnosis and Treatment of Cancer of the Cervix. Dr. Thompson.
100 Katatonia—Its Symptoms and Characteristics. John W. Duke.

Canadian Journal of Medicine and Surgery (Toronto), June.

101 Vaccination. P. H. Bryce.
102 Diphtheria of the Conjunctiva. James MacCallum.

Louisville Monthly Journal of Medicine and Surgery, June.

103 The Importance of Studying the Condition of the Heart Muscle in Disease. Hobart Amory Hare.
104 Tuberculosis of Bone. J. Garland Sherrill.
105 Chronic Empyema of the Maxillary Sinus: Operation and Treatment. J. A. Stucky.
106 The Operative Clinic in Abdominal Surgery and Gynecology at the Kentucky University, Medical Department. Louis Frank.

St. Paul Medical Journal, June.

107 *The Role of the Infections in Diseases of Women. Charles A. L. Reed.
108 A Surgical Clinic. Carcinoma of the Pylorus; Salivary Calculus; Right Oblique Inguinal Hernia; Mastoiditis Following Primary Tubercular Otitis Media. N. Senn.
109 Cancer of the Common Bile Duct. Report of a Case of Carcinoma of the Duodenal End of the Common Duct with Successful Excision. William J. Mayo.
110 *Some Further Notes on the Extension of the Principle of Bisection in Abdominal Surgery. Howard A. Kelly.
111 *A Few Observations upon the Microscopical Pathology of Appendicitis. D. H. Lando.
112 Etiology and Treatment of Pyorrhea Alveolaris—Stomatitis Ulcerosa Chronica. F. Forchheimer.
113 *A Clinical Study of the Surgery of the Kidney. Archibald MacLaren.
114 Cases of Epididymitis Treated with Unguentum Crede. Geo. M. Coon.

Medical Dial (Minneapolis), June 1.

115 Rest in Health and Disease. C. K. Bartlett.
116 Treatment of Acute Diarrheal Affections. A. J. Black.

Journal of Medicine and Science (Portland, Me.), May.

117 The Live Animal in Its Relation to Medicine and Pharmacy. Frank E. Taft.
118 The Metric System—Its Advantages and Disadvantages. O. W. Jones.
119 *Discussion of Dr. Foster's Nine Questions on Syphilis. G. Frank Lydston.

Colorado Medical Journal (Denver), April.

120 Chronic Gonorrhea. Donald Kennedy.
121 Papillomata of the Soft Palate, Turning into Sarcomata. Melville Black.
122 Neglect of a Great Opportunity for the Advancement of Medicine and Surgery in Denver. Henry Sewall.

Southern California Practitioner (Los Angeles), May.

123 Battle Royal Between Science and Superstition—An Historical Study. Fred Baker.
124 Nervous Diseases of Children. Elizabeth F. Kearney.

Medical and Surgical Monitor (Indianapolis), May 15.

125 Ephraim McDowell. Wm. Lane Lowder.
126 *Some Points in Operating for Mastoiditis. George F. Keiper.
127 Cerebrospinal Meningitis—Report of Case. A. T. Stewart.
128 Drug Helps in Diagnosis. John T. Scott.
129 The Old Preparations. N. E. Aronstam.

Medical Mirror (St. Louis), May.

130 Scope and Usefulness of the Physician in the Educational World. James Lee.
131 Notes from the Other Side. Henry Patch.
132 A Front-rank Man of Medicine—A Sturdy Surgeon—A Lovable Man—Professor Chas. A. L. Reed—A Sketch. I. N. Love.

American Medical Compend (Toledo), June.

133 Obstipation, Blood, Pus and Mucus in the Rectum. Thomas Charles Martin.
134 Treatment of Tubercular Joints. B. Becker.
135 Tincture of Iodin in Morning Sickness of Pregnancy. P. H. Strausz.
136 An Efficient Local Treatment for Inflammation and Allied Conditions. D. E. Bowman.
137 Complicated Fractures, Their Diagnosis and Treatment. Thomas H. Manley.
138 The Relation of the Medical Profession to Education. W. D. Stewart.

Laryngoscope (St. Louis), May.

139 *A New Technique for the Reduction of Turbinal Hypertrophies. M. A. Goldstein.
140 *The Effects of Epidemic Influenza on the Mucous Membranes of the Upper Respiratory Tract. D. Braden Kyle.
141 Abscess of the Sphenoidal Sinus Occurring with Acute Mastoiditis. Oscar Dodd.
142 Sensory Neurosis of the Nose. H. L. Myers.
143 Cornu Cutaneum Auris. John C. Lester.
144 Theraupeutics of Iodoform Emulsion. Victor Urbantschitsch.
145 Accidents Attending Adenoid Operations. Christian R. Holmes and H. Stowe Garlick.
146 Foreign Body (Tooth) in Larynx of a Man 51 Years Old. Gottlieb Kiaer.
147 Tubercular Laryngitis in Child of Three Years. Gottlieb Kiaer.
148 A Few Cases of Suppurative Middle Ear Disease, the Complications and Operations. Albert B. McKee.
149 Animate Bodies in the Auditory Canal. J. M. Ingersoll.
150 Syphilis of the Nose and Throat. Edward D. Capps.

Richmond Journal of Practice, May.

151 The Treatment of Tuberculosis. Geo. E. Barksdale.

Kansas City Medical Index-Lancet, June.

152 *The Tender Point in Pressure—Paralysis of Peripheral Nerves. Wm. Browning.
153 Auto-inocular Cystitis. Samuel C. James.
154 The Place of Sentiment in a Professional Life. John R. Brown.
155 Locomotor Ataxia in Its Modern Aspect. John Punton.
156 Report of a Case of Phlegmon of the Orbit. W. H. Schulz.

New Orleans Medical and Surgical Journal, June.

157 Strychnin—Its Clinical Uses. J. M. Barrier.
158 The Annual Report of 1901, with an Historical Summary of Educational Progress, to the President of the Tulane University of Louisiana, at the Annual Commencement of the Medical Department, May 1, 1901. Stanford E. Chaille.
159 Ptomain Poisoning; Duration of Cases in Children. L. G. LeBeuf.
160 Dandruff—Its Treatment. J. N. Roussel.
161 Scarlatina and Diphtheria—A Case with Bacteriologic Examination—Remarks on Antitoxin. E. M. Dupaquier.

Carolina Medical Journal (Charlotte, N. C.), May.

162 *Albuminuria without Manifest Organic Renal Lesions. W. A. Deas.
163 Extrauterine Pregnancy, with Report of a Case of Simultaneous Pregnancy in Both Tubes. C. R. Robins.

Columbus Medical Journal, May.

164 The Professional Man and Twentieth Century Citizenship. William O. Thompson.
165 Pelvic Injuries. R. Harvey Reed.
166 The Treatment of Influenza Otitis. John Edwin Brown.
167 Wounds of the Eye—Their Sequelæ. C. S. Means.

Southern Practitioner (Nashville, Tenn.), June.

168 *The "X" Fever of the South from a Biologic Standpoint. Hayden A. West.

Peoria Medical Journal, May.

169 The Treatment of Acute Appendicitis. C. U. Collins.
170 Introductory Discussion of Rectal Dilatation in the Practice of Medicine. A. B. Middleton.
171 What of Electricity? O. B. Will.

AMERICAN.

1. **Prostatic Hypertrophy.**—The different methods of treatment of prostatic hypertrophy are noticed by Horwitz in detail. The operations performed are classified and number 11, including vasectomy, castration and the combinations of suprapubic and perineal prostatectomy and Bottini's operation. He thinks that the latter proves in a large majority of cases perfectly satisfactory. Local anesthesia may be used. The operation is comparatively safe if performed early and the patient is confined to his bed but for a few days. It is also applicable to a large number of advanced cases, removing the obstruction; while a double vasectomy will avoid the danger of recurrent attacks of orchitis, dependent upon frequent catheterization. As regards vasectomy as a curative measure he offers the following conclusions: 1. As a curative measure vasectomy is of little value, and is not to be recommended. 2. The operation appears to be most effective when performed on patients between 50 and 60 years of age, in whom the prostatic enlargement is of the soft glandular variety. The genital organs of patients of this age are usually in a healthy condition, and the individuals usually object to any operation that is liable to interfere with their sexual functions. 3. The operation is serviceable in those cases where the physical condition of the individual renders him unfit to undergo surgical procedure, who will not submit to a more serious proceeding, who has to depend upon the frequent use of the catheter, or who suffers from periodical attacks of orchitis. 4. Sexual vigor is not diminished by the division of the vasa deferentia. 5. Atrophy of the testicle does not result from the operation. Suprapubic cystotomy is indicated when retention exists and the usual methods of evacuation are impracticable; also as a palliative means in the "break-down period attending catheter life," where resisting powers have disappeared and secondary involvement of the bladder and kidneys has occurred. More serious operations are precluded by the patient's condition, but immediate relief is demanded by the obstructing prostatic gland. It is also indicated in feeble old persons, where there is a fibrous growth, rendering catheterization difficult and the passage of the Bottini bougie impossible. Where there is long-standing chronic cystitis and probably diseased kidneys, which preclude prostatectomy, suprapubic cystotomy may be selected as the least dangerous and most satisfactory operation.

3. **New Clinometer.**—Duane describes at length a new clinometer for measuring torsional deviations of the eye, delimiting paracentral scotomata and detecting simulation of blindness, together with the method of its employment in these various conditions.

5. **Chorea.**—Eshner notices Gordon's recent article, editorially noticed in THE JOURNAL, p. 1258, and confirms the latter's statement to a certain extent. The phenomena are not elicited in every case. When present they seem to represent an intensification or reinforcement, or in some instances to act as an excitant of the choreic movement.

7.—See THE JOURNAL of June 8, p. 1599.
8.—Ibid., p. 1606.
9.—Ibid., p. 1611.
10.—Ibid., p. 1617.
11.—Ibid., p. 1599.
12.—Ibid., p. 1611.
13.—Ibid., p. 1617.
14.—Ibid., p. 1606.
15.—Ibid., p. 1599.
16.—Ibid., p. 1606.
17.—Ibid., p. 1611.
18.—Ibid., p. 1617.
19.—Ibid., p. 1611.

20. **Gastric Ulcer.**—The following is the summary given by Lund of the indications for the surgical treatment of gastric ulcer, and the conclusions of his paper. He reports a case of perforative ulcer and chronic intractable ulcer and discusses the literature and treatment: 1. That in perforation immediate operation is absolutely indicated. 2. That in cases in which the symptoms fail to yield after medical treatment for a reasonable period, operation, consisting either of excision of the ulcer or gastro-enterostomy, should be performed, and this before the patient has become so exhausted as to render surgical intervention dangerous. 3. In hemorrhage, where slight, frequently repeated bleeding promises to produce grave anemia or exhaustion, similar early operation should be done. 4. Where a patient has suffered more than one copious hemorrhage, operation should be performed, and the extent and nature of the procedure should be decided upon according to the power of the patient to withstand operative manipulations, and the conditions found during the progress of the operation. Only active ulcer and its complications are considered in this paper, and the after-effects such as pyloric contractions, adhesions, etc., are purposely left unconsidered.

21. **Kidney Abscess.**—Abscesses of the kidney, according to Cabot, may be due to injury, to extension or inflammation of contiguous parts, and to an inflammation extending through the pelvis. The parasites producing the disease are streptococcus and staphylococcus, the colon bacillus, pneumococcus and typhoid bacilli. All these undoubtedly circulate in the blood and are eliminated in the kidneys, the latter especially in large quantities. The greater number of cases of this character occurs in the course of general infection, the toxins in the blood depress the circulation, enfeeble nutrition, favor fine clogging of the vessels and infection of local tissues. When the heart is involved the kidneys are still more easily infected. A case is reported in which the disease was due to invasion by the colon bacillus, though the recovery of the patient prevented the discovery of the primary lesion. As regards the diagnosis of pelvic abscess, he says in the presence of chills, high and variable temperature, and delirium, together with local renal symptoms, swollen and sensitive kidney, the diagnosis is not difficult, especially with confirmatory evidence by urinary examination, as is possible in most cases. The only conditions that may be confounded are acute exacerbation of inflammation in a tubercular kidney, acutely inflamed calculous kidney, and highly congested and hydronephrotic kidney due to mobility. In either of the first two conditions there is usually a history of long-standing trouble, though this can not be always relied on. In every case of doubt he thinks it advisable to explore the kidney by incision. If abscess is not found, incision of the capsule will render the intense congestion of the kidney less severe. If there is any question of calculus, opportunity for a thorough search is afforded and for removal, and if the kidney is movable and suffering from congestion or intermittent hydronephrosis, from twisting of the vessels and ureters, it can be fixed. Operation, therefore, is advisable in every case.

22. **Effects of Training.**—Darling has continued the investigation of the effects of training instigated by the Harvard Athletic Committee during the season of 1899 and 1900, and has obtained the assistance of Prof. Atwater and Dr. Benedict of Middletown in studying the dietary. They found the effects of foot-ball similar to those of rowing, but deviations from the normal were not so great, the exertions being more intermittent and intervals of rest occupying a large portion of the time of play. Both sports appear to accustom the heart, kidneys and other organs to the extraordinary demands, so as the season progresses they do their work more easily. An investigation of rowing was made and is of some interest on account of an accident occurring at the time to one of the members of the crew requiring a substitute in his place, and the effects of increased exertion and practice on the crew and on the substitute are given. In the case of the substitute the sudden re-

sponsibility and work affected him more seriously than the others and he was much prostrated with the symptoms of collapse due to overexertion when not in perfect condition. The after-effects of training are also studied upon the rowing squad of 1899, and the author says no ill effects which may be reasonably attributed to training are to be discovered nine months after stopping.

23. **Anesthetics.**—Roulet describes the technique of the precautions to be employed in the use of anesthetics. He is rather an advocate of chloroform, considering that its dangers have been exaggerated, while those of ether have been correspondingly minimized, but he insists on the necessity of the perfectly pure article in either case. As regards subarachnoid cocainization, he considers it much more dangerous than chloroform, its dangers being partially due to the treacherous nature of cocain, the dangers of sepsis and of hemorrhage into the cord from the divided blood vessels. He gives a tabulated statement of some 900 cases, calling attention particularly to some of the embarrassments of the method.

26.—See THE JOURNAL of June 8, p. 1161.

27.—Ibid., p. 1599.

28.—Ibid., 1606.

29.—Ibid., 1611.

30.—Ibid., 1617.

31. **Riggs' Disease.**—The conditions producing Riggs' disease are noticed at length, and the anatomical conditions. Wright holds that it has a relation with morbid conditions in almost every portion of the body and its cause is often a neurosis, but any kind of disordered condition may have to do with its production. Its effects also are multiple and he says he can not point out even the partial and obvious diseases, which may result from neglected pyorrhea alveolaris, but the interdependence of the health of the organs upon one another is too well known to let us permit the whole organism to become undermined by this progressive, chronic, and curable disease. He maintains that the treatment of this disease should be raised to the same plane as the treatment of diseases of the eye, ear, nose and throat and it be considered no longer as a purely dental condition. If this can not be done, we had better fall back on the old method and recommend extraction and plates.

48. **Food Adulteration.**—Wiley first notices the action of arsenic in the recent beer-poisoning epidemic in England. The ostensible purpose of all the pure-food laws is restrictive, and he classifies them as follows: 1. General laws, which do not mention any food by name, but consist of general principles. 2. The discriminating laws, including those which specify certain articles of food. He objects to this as a rule, as not being favorable to fair trade, and believes that the general laws, of which he gives an example, would meet the proper indications best. 3. The prohibitive laws, and of these there are two kinds: Those which prohibit the manufacture and sale of food products which are wholesome and nutritious; and laws which prohibit the manufacture and sale of added deleterious substances. Examples of the first kind are found in a few states, and relate mostly to the manufacture and sale of oleomargarin. Their injustice needs no comment. The second class, aside from the fact that they are discriminating, are advisable, providing the deleterious effect of the contained substance is beyond question. The fact is that there have been very few attempts to determine impartially the character of many of the prohibited articles. The fourth class of legislation is what he calls fiscal, because it lays a tax on food products for the purpose of raising revenue, and is also discriminating. Having thus classified the legislation he passes to the question of adulterants which may be divided into two categories. 1. Innocuous adulterants, including those which are neutral or even nutritious, and 2, noxious or directly or indirectly injurious to health. According to the circumstances many kinds of adulterants may be in one class and another at different times and from the point of view of medical jurisprudence the classification is not important. The principal processes of food adulteration may be classified as follows: 1. Adulteration secured by the elimination of some valuable constituent. The most common form is the abstracting of cream from milk. 2. The addition of some harmful diluent. Dairy products furnish another example of this practice, illustrated in the joke of the well and the milk-pail. 3. Adulteration by the substitution of a cheaper for a dearer product, as in the case of cotton-seed oil for olive oil, oleomargarin for butter. 4. Adulteration by coloring an inferior product to resemble a superior, which is a very common practice. 5. Food adulteration by the addition of antiseptics, which is the most common of all and found in all perishable articles of food. He mentions the substitution of infant foods for milk, and calls attention to the importance of age as regards the effects of these substitutes. Adults can stand impurities, which may injure infants and he lays down the rule that any form of adulteration which by any final action upon a healthy organism or by any immediate action on a weakened organism produces harmful effects should be prohibited. On the other hand, those adulterants which are indicated on the label and work no deception may be permitted provided they do not, under the above circumstances, produce any injurious effects. Of the adulterants that are not injurious to health he mentions glucose, which if properly prepared is thoroughly wholesome; but if it is manufactured with sulphuric acid containing a trace of arsenic, as in the English poisoning cases, it may be very dangerous. Another harmless adulteration is oleomargarin, and many vegetable oils of this class, such as cotton-seed oil, sunflower oil, and olive oil; this is reprehensible, but not on hygienic grounds. As regards the coloring materials he mentions particularly coal-tar products, which in minimum quantities probably are harmless, but there is a presumption of guilt on those who employ them. These colorings are absolutely indigestible, and by far the most dangerous, however, of the deleterious substances are those added to prevent decay. In all, 67 different samples of antiseptics which are advertised in the market have lately been examined in the Department of Agriculture. Of these 33 contained borax or boric acid; 8 sulphites of sodium, potassium or calcium; 5 contained salicylic acid or its sodium salts; 4 benzoic acid or its sodium salts; 1 was a mixture of boric and salicylic acid; 1 boric acid and ammonium fluorid; 3 formaldehyde; 2 pyroligneous acid; 1. ammonium fluorid; 1 beta-naphthol. One-half of these consist of borax or boric acid, which is the least objectionable of the common preservatives. Indeed, while he goes so far as to say that he does not so much object to boric acid food products, if it is plainly described on the label, the most objectionable of the antiseptics is salicylic acid, the use of which, even in small quantities, should be condemned. There are many others not on the list of those examined; they include notably saccharin and nitrate of potassium. Of these saccharin is objectionable, while nitrate of potash may be permitted in condimental doses. Formaldehyde even in minute doses may be injurious to infants and weakened adults. The use of fluorin should be prohibited, at least until it is demonstrated harmless. These preservatives are sold under trade names, which give no clear idea of their composition and the sale of injurious substances under fanciful names is a crime which should be adequately punished.

58. **Pneumonia.**—The points brought out in this paper by Babcock are: 1. That a pneumococcus pneumonia is not necessarily a lobar pneumonia. 2. That the gravity of the symptoms in many cases does not depend upon or bear any relation to the extent of the pneumonic process, but is the result of the infection. He reports a case which illustrates both of these points. The pneumonia was limited to scattered and small exudates and the patient suffered from paralysis of the vasomotors with consequent capillary paresis and cardiac asthenia. Death occurred in less than three days from the invasion, the temperature being subnormal in the axilla. This last he accounts for by capillary dilatation, causing rapid radiation and cooling of the skin, thus making a deceptive reading of the thermometer. The practical point is the effect of invasion on these nerve centers. He thinks it is advisable in such cases to give diffusible stimulants, frequently administered. Aside from the pure heart stimulants in these cases, he knows of

nothing so efficient as full hypodermic doses of strychnia as a cardiac tonic, in 1/30 or 1/20 of a grain every two hours and even hourly in very urgent cases. He recommends also the administration, both by rectum and subcutaneously, of physiologic salt solution to aid in the elimination of toxins; in cases of cyanosis blood letting is undoubtedly of service at times and will promote the action of the salt infusion. Finally the inhalation of oxygen is also to be recommended and it should be given freely and if need be continuously.

59. **Diaphragmatic Hernia.**—Five cases of this condition are described by Parker, who concludes that diaphragmatic hernia is of fairly frequent occurrence, the diagnosis being rarely made—in no more than 2 per cent. of the cases. The absence of the sac is the rule, it being present in about 10 per cent. of all cases, and only 1 per cent. of traumatic ones. Although the so-called weakened places predispose to hernia in some traumatic cases, in shot and stab wounds no such causal relation exists. Stab wounds are usually on the left side, being the side naturally opposed to the stroke from the opponent's right hand. The contents are most frequently omental, but may include almost any contents of the abdomen. Complicating intercostal hernia is not infrequent. Although many of the acquired lesions of the diaphragm are incompatible with life, yet gross defects in its structure may occur with little or no disturbance of health. The diagnosis is aided by the presence of local scars or lesions. Skiagraphy may also be of value. The immediate danger is due to the injury of the adjacent viscera; the remote danger is from contraction of the opening and constriction, and is greatest in small wounds. Spontaneous cure may result from contraction of the orifice and atrophy of the contents composed of unimportant structures. Treatment is necessarily surgical and limited, on account of the infrequency of the diagnosis, severity of gross lesions, and the inaccessibility of the parts. In all wounds in the range of the diaphragm the possibility of injury to that muscle should be remembered and all wounds and its structures be closed at once to prevent hernia.

60. **Neurasthenia.**—Brown coins a new word "neurenergen," which he defines as an ultimate form of organic matter contained in the neuron, through whose agency it is convertible into waste products, and the various manifestations of nervous energy. According to this conception, there is in health a current of neurenergen constantly flowing into the neurons and being transformed by them. It is at its minimum in repose and its maximum during activity and while there may be wide differences there must be an available neurenergenitic reserve which may be drawn upon as occasion demands. The exciting cause of neurasthenia then may be looked for in those influences which demand an exhaustive expenditure of nervous energy and the lack of balance from demands of this kind. He reviews the symptoms, causes, etc., and points out the distinctive types, the motor as shown in the "stale" athlete, the sensory and the mental neurasthenic, the symptoms as regards the special senses and the vegetative functions. The rest treatment he thinks is adapted to neurasthenia in females, and he gives its advantages and disadvantages. The neurasthenic man should shorten his hours; he should take out-door exercise and diversion, with suitable food; absence of anxiety is necessary. This forms an ideal treatment for many cases, though it is often carried on for too short a time. He says that the physician who thoroughly studies his patient, estimates his capacity and limitations, and by patient persuasion induces him to adhere to a mode of life consistent with the fullest measure of success, comfort and happiness possible to him, earns and sometimes enjoys the grateful appreciation of his patient, but never receives compensation at all commensurate with the value of his services. He concludes that the changes observed in the body of the neuron after administration of arsenic suggest its employment in neurasthenia.

61.—See abstract in THE JOURNAL of May 11, p. 1340.

70. **Amblyopia.**—Pearse argues for the action of the sympathetic in producing amblyopic conditions, especially hysteric ones, holding that the effect on the circulation of the fundus is mechanical in hysteric blindness. He says our knowledge of the manifold manifestations of hysteria does not permit us to say positively that the retinal elements or the conducting channels of the visual centers themselves are free from the influence of this disease. The effect on the visual apparatus of fright, shock, emotion, mental exhaustion, overexertion, etc., is essentially the same as in hysteria, and whether the sympathetic is involved in these results is as yet a question. In view, however, of the known action of the sympathetic, and many cases observed, which present the same conditions in the vessels of the fundus that are produced by the sympathetic elsewhere in the body, he asks if the sympathetic does not influence the fundus, what does. Until a more plausible source of influence is positively demonstrated, we can not do better than accept this explanation, which is far removed from being a theory.

77. **Loop Around the Hyoid Bone.**—Having lost a patient after extirpation of one-half of the inferior maxilla, which can only be attributed to asphyxia from sinking back of the tongue, Fenger has since passed a loop of silk or wire around the body of the hyoid during narcosis so that the bone can be pulled forward if necessary and the larynx freed. It is easy to pass the loop of silk through a small longitudinal incision over the middle of the body of the hyoid, around its posterior surface up over the upper border and out through the wound. A small pad of iodoform gauze is placed in the wound and the loop tied over it, the ends being left long enough to permit of manipulation by the operator on the anesthetizer. At the close of the operation the loop is left in place and attached to a plaster-of-Paris cast, loosely covering the dressing at the field of operation, with traction on the hyoid sufficient to prevent sinking back of the larynx and epiglottis and thus keeping the entrance to the larynx open even during sleep. Fenger usually leaves it three or four days until the patient is able to breathe without difficulty with the head and body in any position. He shows by illustrations the *rationale* and efficiency of this procedure.

78. **Gasserian Operation.**—Bartlett reports two cases of excision of the intact Gasserian ganglion, following Cushing's inferior temporal procedure in preference to the Hartley-Krause operation, which former he thinks is less tedious and somewhat superior, as the middle meningeal is not endangered and primary ligation of the external carotid made needless. Both his patients had violent paroxysms shortly before passing under the anesthesia, but since the operation neither has known one twinge of the neuralgia.

79. **Trigeminal Neuralgia.**—Schwab gives the findings in two extirpated Gasserian ganglions as illustrating the pathology of trigeminal neuralgia. In both the nerve cells were pathologically altered, but in neither to such a degree as to consider them primarily affected. From these two ganglions it is evident that trigeminal neuralgia is not a definite disease, but merely a symptom of various processes affecting the fifth nerve anywhere in its course. It is probable that no disease of the nerve cells *per se* exists as a parenchymatous affection. With our present knowledge we are justified in making two classes of trigeminal neuralgic affections. The first and most common is the neuritis beginning in the terminal division and tending to ascend. The second is the interstitial inflammation, chronic and progressive, of the ganglion body itself. Of the two specimens studied he places one in each category. A third division is possibly a central neuritis or neuralgia affecting the sensory root on its way to the pons. The operation for removal of the ganglion has a definite standing, for wherever the process is located it must be the final means of relief. The question is: When is it justifiable? In regard to the so-called central neurites he fails to see their bearing on the utility of the operation. The sensory root, if diseased, he says, can only degenerate to the terminal ends of the neurons involved and there the process must stop. The pathologic processes in the brain itself, other than those due to pressure and those affecting the meninges, cause no symptoms of pain, and as the Gasserian ganglions contain the cells of nutrition of the sensory root, their removal is equivalent to placing this portion of the nerve outside the realm of active

symptomatology. What we need is such an improvement of the operative technique as to render the operation comparatively safe and such an improvement in our clinical knowledge that it will be possible to tell what portion of the trigeminus is affected, so that peripheral or ganglion operation can be chosen.

82. **Cirrhosis of the Liver.**—Frazier reports a case in which Morrison's operation was performed, describes the method, and believes that, though our experience is limited, this operation has a future in properly selected cases, namely, those where the liver is cirrhotic, those where there is reason to believe that liver-cells are not devoid of function, those where internal medication and paracentesis fail to afford relief, and lastly those in which there is no reasonable contra-indication.

95. **Pterygium Operation.**—The method of transplantation has been far more satisfactory to McReynolds than any method of simple abscission, and after a very thorough trial of the various methods he has adopted the following plan: 1. Grasp completely the neck of the pterygium with a strong, narrow fixation forceps. 2. Pass a Graefe knife through the constriction and as close to the globe as possible, and then with the cutting edge turned toward the cornea shave off every particle of the growth from the cornea. 3. While the pterygium is still held divide the conjunctiva and sub-conjunctival tissue along its lower margin with a pair of slender straight scissors, commencing at its neck and extending toward the canthus, a distance of one-fourth to one-half of an inch. 4. Still holding the pterygium with the forceps, separate the body of the growth from the sclera with any small non-cutting instrument. 5. Now separate well from the sclera the conjunctiva lying below the oblique incision made with the scissors. 6. Take black silk thread armed at each end with small curved needles and carry both of these needles through the apex of the pterygium from without inwards, and separated from each other by a sufficient amount of growth to secure a firm hold. 7. Then carry these needles downward beneath the loosened conjunctiva lying below the oblique incision made by the scissors. The needles, after passing in parallel directions beneath the loosened lower segment of the conjunctiva until they reach the region of the lower fornix, should then emerge from beneath the conjunctiva at a distance of about one-eighth to one-fourth of an inch from each other. 8. With the forceps lift up the loosened lower segment of conjunctiva and gently exert traction upon the free ends of the threads, and the pterygium will glide beneath the loosened lower segment of the conjunctiva, the threads may then be tied, and the surplus portions of thread cut off, leaving enough to facilitate removal after proper union. It is important that no incision should be made along the upper border of the pterygium, because it would gap and leave a denuded space when downward traction is made upon the pterygium. The elasticity of the conjunctiva is such that when this downward traction is exerted on the head of the pterygium it becomes thinned and smoothly applied to the sclera corresponding to the former site of the body of the growth and the margin of the conjunctiva coincides accurately with the sclero-corneal junction. Thus, when the operation is completed and the speculum removed, the stitches are hidden by the lower lid and the only denuded area is on the cornea. The former site of the body of the pterygium is covered by thin and comparatively non-vascular conjunctiva. What blood vessels remain are directed downward and hence do not tend to encroach again upon the cornea, while the vascular activity is concentrated beneath the lower lid, where it is not only removed from view, but protected, and atrophy surely and naturally follows. The corneal wounds heal quickly and the thin conjunctival tissue becomes closely adherent to the sclera. After a few days the single stitch can be removed and the old pterygium be found firmly adherent to the sclera and hidden beneath the loosened lower segment of the conjunctiva. If the head of the pterygium is very large it may be cut off before the growth is drawn down. The general direction of the traction thread is vertical, but it is usually best to incline them in such a way that they will emerge from that part of the conjunctiva that lies below the cornea. This is often necessary so as to permit the denuded sclera to be completely covered by smooth conjunctiva and if the conjunctiva should slightly overlap the cornea at any point it can easily be trimmed away without interfering with the desired results.

96. **Artificial Eyes.**—Borsch describes his experience with artificial eyes and recommends closed hollow ones, which he finds have many advantages, being less irritating, and without sharp edges to cut the tissues.

107. **Infections in Diseases of Women.**—The following are the conclusions of Reed's article: "1. The epithelial surface of the genital tract, in its integrity, is an efficient barrier against invasion of the underlying structures by pathogenic micro-organisms that establish parasitic and saprophytic relations to the vagina. 2. The normal cervix and its contained secretions are adequate barriers against the invasion of the uterus by pathogenic bacteria that are capable of maintaining a habitat in the vagina. 3. The vagina possesses certain powers of self-disinfection which work only against the organisms that are at once true parasites and facultative aerobes. 4. Certain pathogenic bacteria, notably the gonococcus of Neisser, the Klebs-Loeffler bacillus and the oidium albicans, find in the warmth and moisture of the genital epithelium conditions favorable to their propagation and to the increase of their virulence whereby the epithelium itself may be destroyed, to the extent of losing its protective properties. 5. Pathogenic bacteria innocuously present in the genital tract may become virulent when introduced into the underlying structure through a breach in the protective epithelium. 6. Pathogenic bacteria when introduced into previously normal tissues immediately provoke the process called inflammation, the essential phenomena of which is the speedy deposit and rapid extravascular migration of the leucocytes, which act as phagocytes in preventing the further invasion of the system. 7. Pathogenic bacteria that are thus overcome by the leucocytes may enter either by the lymphatic or the sanguiniferous circulation, producing secondary phenomena, septicemia, pyemia, and even the death of the patient."

110. **Bisection in Abdominal Surgery.**—Kelly's article is elaborately illustrated and methods described. The summary of the latter is given as follows: "1. Vertical section of anterior and posterior walls into cervix or into vaginal vault in pelvic inflammatory diseases and in carcinoma of the cervix. 2. Vertical section in cases of fibroid tumors wedged in the pelvis, or held down by bilateral pelvic inflammatory disease; also in cases of large fibroid tumors filling the lower abdomen. 3. Section of the anterior wall of the uterus followed by division of the posterior wall where the fundus is adherent. 4. Transverse division of the cervix followed by vertical section of the uterus from below upwards in cases of dense adhesions of the fundus and the posterior surface. 5. Bisection of intraligmentary myomata; bisection of intralgamentary cysts; bisection of adherent ovarian cysts."

111. **Appendicitis.**—The microscopic appearances in cases of appendicitis are described by Lando. They show proliferation in the crypts producing elongated ducts, almost resembling an adenoma; also infiltration between them and of the submucosa and outside a greatly hypertrophied muscle layer, limited to the inner circular layer. He asks the question why the appendix becomes gangrenous or perforated without undergoing distention, while the Fallopian tubes, which are in structure quite similar, are capable of enormous distention, and finds the explanation in the well-developed circular muscular coat in the latter as compared with its poverty in the former. This, however, is only one factor; those of shock, virulence, intoxication, etc., have a bearing on the pathologic condition produced.

113. **Kidney Surgery.**—After reporting a number of cases of various operations on morbid kidney conditions, MacLaren concludes that: 1. That surgery of the kidney is in its infancy, and that there is a great field for conservative work. 2. That nephrorrhaphy is of questionable utility. 3. That cystoscopy with the Kelly tubes, in women, and with the Preston instrument in men, combined with catherization of the ureters and the Harris separator, together with the modern Roentgen

photography, are valuable aids to diagnosis in obscure kidney diseases. 4. That exploration of the kidney, loosening it from fatty capsule, bringing it to the surface and bisecting it if necessary, with the exploration of the ureters through the pelvis, is often a justifiable procedure and ought to be more commonly adopted. 5. That stone in the kidney is not so rare a disease as we have generally believed; that if left to itself it sooner or later causes death, or disorganization of the kidney and invalidism. 6. That pyelitis, cysts, tumors or local tuberculosis can be cured by exploration and drainage or by resection of the kidney. 7. That tuberculosis or septic disorganization of one kidney demands nephrectomy, which is not a dangerous operation, provided the other kidney is competent.

119. **Syphilis.**—Lydston discusses the answers in regard to syphilis which appeared in a former number of this journal. He does not believe that as many as 10 per cent. of the population in this country are affected with syphilis in one form or another, though that may be the correct figure in large cities. He makes his estimate from impressions derived from various sources, his practice and that of his confrères, the incidental confessions of others, etc. As regards the diagnosis of syphilis he is conservative where he formerly was positive in these matters. In respect to treatment he thinks that nitrate of silver only aggravates the lesion, excepting in cases of granular sores which requires stimulation. One answer given in regard to the curability of syphilis he thinks is too positive, that is that it naturally tends to a cure. Nature's efforts to cure syphilis are not productive of very satisfactory results. The disease will run its course without treatment, but what a course! The marriage of syphilitics is a very important question, for which it is impossible to lay down rules. Lydston criticizes the opinion of Dr. J. M. Mathews that syphilitics should never marry. He also criticizes him in regard to the opinion as to the transmission to children and doubts whether he has given the subject the study that is its due.

126. **Mastoiditis.**—The technique of the operation for mastoiditis is described by Keiper, who discards gown and aprons which render the physician over-warm. He thinks it is best to take off all outer clothing, including the white shirt, and put on a sterilized negligé shirt, and over these a sterilized linen suit with canvas slippers and a sterile cap. He emphasizes making a free incision as close to the auricle as possible to expose at once all the surface to be operated upon and be able to give the periosteum the attention it should receive. The trephine he thinks a splendid instrument to begin with. Some have boasted that they pay no attention to the possible injuries of the facial nerve; he thinks they have been lucky rather than wise. Sterilized sponging will do away with the necessity of irrigation, which has its disadvantages, and he believes in making the inspection of the brain cavity and lateral sinus under strict asepsis to be sure of their non-involvement.

139. **Turbinal Hypertrophies.**—Goldstein objects to turbinotomy or turbinectomy on account of the extensive destruction of the physiologic vital tissues, the discomfort and pain to the patient, the frequency of post-operative hemorrhage, and the possibility of infection. He has devised a special trocar for the cautery operation in this condition as suggested by Pierce. The trocar is armed with an obturator and sliding ring which may be fixed so as to gauge the penetration. After cocainization and sterilization he locks the obturator in the trocar and adjusts it to any desired depth by the ring, and introduces it into the hypertrophied tissue parallel with the turbinal bone and along its surface as close as possible. Then withdrawing the obturator he uses the probe with a bead of chromic acid fused on its end, also with guard to secure proper penetration, and passes it through the trocar into the tissues, gradually withdrawing them both, so that the entire turbinal area to be cauterized is brought in contact with the chromic acid, and there is an even distribution along the whole route. He concludes the technique with an oily campho-menthol spray and introduces a cotton tampon saturated with benzoinol into the nares with the hope of producing mild and constant pressure on the hypertrophied mass during healing and cicatrization. There is no hemorrhage, the time is short, the patient suffers little or no pain, there are no untoward after-effects, no destruction of physiologically vital tissue, and no formation of synechia, as all inflammatory exudate is submucous.

140. **Influenzal Effects on the Upper Respiratory Tract.**—Kyle describes briefly the various conditions following influenza in the upper respiratory tract. The virus has a peculiar faculty of getting into all sorts of localities. He has seen both middle ears involved, and both mastoids in a short time, and the frontal sinus becomes involved early in the disease and reaches its greatest degree of disturbance during the height of the disease. The ethmoidal cells are involved early or during the attack, and the disease frequently continues as a suppurative ethmoiditis distinguished by its virulent infectious character. Tonsillar and peritonsillar involvement is quite common. The mucous membranes are affected in various ways; blood clots form on the surface, yet there may be no distinct hemorrhage. There is often a thickening of the membrane afterwards, not an edematous swelling, but a tough and infiltrated condition. A curious fact is that local treatment with nitrate of silver, iodin, chlorid of zinc, etc., aggravates and makes worse the inflamed area, while sedative oily solutions seem to relieve. Where there is need to use a germicide, he prefers the Loeffler solution. He believes that there is a marked alteration in the local constituents of the blood; the exudate from vessels in this disorder is a highly coagulable albuminous material infiltrating the tissues, obstructing secretion and causing interference in function as well as nutrition.

152. **Tender Point in Pressure-Paralysis.**—Browning states that in a former article he called attention to this tender point, but the feature was not perhaps sufficiently emphasized to gain recognition. He has since verified his observation and can more thoroughly estimate its value. The tender spot can be demonstrated in most cases during a considerable period in the course of nerve injuries, and it consists of a circumscribed point to be made out where the harmful pressure has been exerted. If the path of the musculospiral nerve around the back of the upper arm, early in a pressure case of the common radial type, be closely palpated, a very definite tender spot can generally be discovered. It is not excessively sensitive, but can be detected by running up and down over the course of the nerve with the finger tips, pressing firmly. Sometimes the patient can find it best. The time in which it develops is uncertain; in some cases it appears early, and it may not be found even after a long period of time in others. The practical and theoretical importance is considerable. It indicates that there are pathologic changes at the point of injury and leaves the presumption that there is a limited congestion or effusion at the affected spot and probably slight alteration in nerve structure, sufficient to interrupt conduction, without as a rule causing any degeneration. It is useful also in the diagnosis in determining the character of the case. Any slight inflammation in or about the nerve with a sort of focal neuritis, if left undisturbed, tends to prolong the paralysis and is an indication for local treatment. By applying counter-irritants or local derivation directly over the tender spot we attack the cause of the trouble and materially hasten the cure. Of course, this local treatment should be supplemented by other measures.

162. **Albuminuria.**—Dean finds from his statistics that there is a functional albuminuria occurring with more or less frequency and persistency. The cases have been traced to various causes, such as dietetic, neurotic, and oxaluric conditions. Under whatever form they occur there is reason to believe that vascular changes in the kidneys exist, that there is a true local congestion which may lead to more serious trouble if persistent. There is no reason, he thinks, for believing in a true physiologic albuminuria.

168. **"X" Fever of the South.**—This disorder, which has been previously noticed, is described by West. It seems to

bear close resemblance to typhoid in some respects. It is ushered in by not more than three days of fever, the temperature rising suddenly and remaining between 103 and 104 F. for from two to eight weeks. The bowels are generally constipated, though in three cases there was diarrhea and tympanites. The nervous symptoms are conspicuously absent. The object of his study was to determine the presence or absence of three things: 1. The hematozoon of malaria. 2. The bacillus of typhoid. 3. The presence or absence of any other infectious organism. A bedside study of wet blood films was usually made each day; in two cases this was made only three times a week. The Widal serum test was employed and attempts were made at isolation from the feces and urine. Culture experiments were also made. The results obtained were: 1. The hematozoon of malaria was never found in any of its forms. 2. The Widal reaction was not positive at any period during the course of the fever. 3. Typhoid bacilli were never isolated from stools or urine. 4. No growth resulted from inoculations made from the patient's blood. In conclusion, he says that the etiologic factor concerned in typhoid and malarial fever is not present in this fever, and it remains for more refined technique and further research to bring out the cause of X fever. In the discussion which followed some of the speakers seemed to think that this disorder was associated with malarial fever, though not malaria itself, and hence maintained that it is a disease *sui generis*.

FOREIGN.

British Medical Journal, June 1.

The Pathogenesis of Tabes and Allied Conditions in the Cord. CHALMERS WATSON.—The author criticizes the more generally accepted view in regard to the pathogenesis of tabes, viz., that it is a disease primarily of the nerve cells. He holds that tabes is not a nervous disease in the sense usually apprehended and the lesions in and around the vessels are of primary importance, the lesions of the neurons being determined by the local interference with the blood supply. (This does not include the conditions of varying vitality of the neurons as an important factor in disease.) Further, there is, he thinks, grounds for the belief that the condition is dependent upon chronic intoxication, the vascular lesion being to some extent general, but tending to be more advanced locally, and that the more advanced local changes demonstrate the failure of nutrition in the adjacent nerve elements. If these views are correct the disease ought to be curable in its early stages. He deprecates the tendency to differentiate tabes sharply from other diseases of the cord. We should rather investigate the nature of different toxins and the conditions which have brought about the variation in the result of their action. The arguments in favor of his views are drawn from the facts of comparative pathology, from histologic appearances of the cord in early tabes, from the fact that we have no occurrence of the disease where the vascular origin can be definitely excluded, and from what he considers clinical evidences in its favor. He believes that the vascular theory would explain the anomalous cases, the relation of the onset of the disease to traumatism, exposure, etc., and would account for the transient paralyses and the association of paresis, muscular atrophy, etc., which point to involvement of portions of the cord having no direct continuity with the part most affected. The epileptic attacks that occur in the disease, and the mental symptoms, also, are, in his opinion, supporters of this view. As regards the syphilitic origin of tabes, he considers it a mere *non sequitur* from the fact that syphilitic history can be traced in a large number of tabetic subjects. He can only say he believes that syphilis alters the physiologic condition in such a way as to favor the attack and the operation of the actual causes of tabes and allied conditions.

The Lancet, June 1.

Acroparesthesia, Erythromelalgia, Sclerodactylia, and other Angioneurotic Disturbances. THOMAS D. SAVILL.—After reporting a number of cases of acroparesthesias and allied conditions, Savill discusses their causation, classification, and the relation they bear to Raynaud's disease. As regards the etiology of acroparesthesia, out of 35 cases recently observed, 29, or 82.8 per cent., were females. Excluding 2 children, the average age was 32.4 years. In 10 patients these conditions were secondary to other maladies, such as neurasthenia, hysteria, Graves's disease, acromegaly and general paralysis, but the rest applied for relief of the acroparesthetic conditions directly. "Acroparesthesia, erythromelalgia, and the other many and varied vasomotor symptoms have certain features in common. 1. They are much more frequently met with in the female sex, the proportion, I find, usually being much higher than that above mentioned. I imagine that something like 90 per cent. of these cases occur in female patients. 2. Vasomotor conditions appear to be due to some inherent and very often inherited tendency in the patient, for they recur again and again in one form or another during the life of an individual. Thus, a patient may have migraine at one time, severe flushings at another, and syncopal attacks at another, though I have generally found that there is a tendency to a recurrence of the same disorder. There are, moreover, two epochs of life which are specially prone to their development—namely, puberty and the climacteric. 3. The onset of the symptoms, whatever they may be, is always more or less sudden. 4. They are in all cases paroxysmal—i. e., they occur in the form of attacks. There is a sudden rise, when the symptoms soon reach their acme, followed by a gradual descent. In severe cases the attacks may be so frequent as to resemble a continuous malady, but close observation will detect that there are well-marked exacerbations. 5. In the great majority of the patients flushes or flush-storms occur from time to time during the patient's life; should these be absent there are generally other evidences of vasomotor instability. 6. A great many of them—particularly of the vasodilator kind—are amenable to treatment by bromids, which relieve them at any rate for a time. These six features are very instructive, and many of them may be explained by the study of the physiology of involuntary muscular fiber." He makes the following clinical classification: Cases due to vasodilation are, 1, early stage (chronic); attacks of redness, tingling, burning, etc.; 2, late stage; symptoms attended by swelling which gradually becomes permanent (erythromelalgia); 3, if the process takes an acute course the symptoms go to gangrene, usually moist gangrene (Raynaud's disease—congestive or asphyxial type). Cases due to vasoconstriction are, 1, early stage (chronic); ischemia, attended by numbness, tingling, "pins and needles," "dead fingers," etc. (ischemic acroparesthesia); 2, late stage, sclerosis of skin and subcutaneous tissue; 3, if process takes an acute course dry gangrene probably results (Raynaud's disease—syncopal type). It will be seen that these varieties correspond to the different varieties and phases of Raynaud's disease, which begins in one or other of the above ways and may go on to gangrene. These cases are also probably related to the condition described by Dr. Henri Meige and others under the name of "chronic hereditary atrophedema. He remarks that the attacks of perspiration sometimes met with in the extremities, probably come under the same category, but are not included in the above classification, because although the derangement is probably situated in the sympathetic nerves and the sweating is generally attended by flushing, we are not sure that it is not controlled by separate nerves. The idea of his paper is to show the relation as it appears to him, of these conditions to each other and to Raynaud's disease. We know comparatively little of the sympathetic nervous system. Laboratory experiments have not thrown much light on the subject: therefore, he believes the first step is to get a clear notion of clinical phenomena and their relation to each other.

Arterial Hypertonus and Arteriosclerosis: Their Relations and Significance. WILLIAM RUSSELL.—The author calls attention to the application of the term "arteriosclerosis" and criticizes the signification given to it of recent date through German influence. He reports a number of personal observations and sums up the views of other authorities, showing that the term is applied to three diseases: 1, to atheroma; 2, to a generalized endarteritis; and 3, to a thickening of the intima compensatory to dilatation of vessels from weakening of their middle coat. The results which he arrives at through

his own studies are: 1. Atheroma and arteriosclerosis are two totally distinct clinical and pathological entities. 2. Atheroma is a localized and patchy affection of the arteries characterized by degenerative changes which have long been recognized. 3. Arteriosclerosis is a generalized affection of the arteries and is characterized by (*a*) thickening of the tunica media, this thickening being primarily a true hypertrophy, although it may ultimately show some degeneration; (*b*) thickening of the tunica intima from fibrous hyperplasia of the subendothelial connective tissue without atheromatous degeneration; and (*c*) in some instances fibrous thickening of the tunica adventitia. 4. The changes in the arteries in the kidneys differ from those in the radial, or even in the renal arteries themselves before they enter the kidneys. They differ in the following respects: in the kidney the thickening of the intima is proportionally greater, the media is not appreciably thickened, it may even be atrophied and may have undergone hyaline degeneration. (The atrophic changes in the kidneys are in proportion to the sclerotic changes in the vessels.) 5. The lumen of the radial arteries and of the arteries in the kidneys is markedly diminished. 6. The changes in the nutrient arteries of the brain, and probably of the cord, correspond with those in the arteries inside the kidneys. 7. Arteriosclerosis may be associated with more or less atheroma in the same subject. His cases contradict Thoma's view that thickening of the intima is compensatory to weakening and yielding of the media. Much of the confusion has arisen, he thinks, from failure to separate the points of similarity and dissimilarity in the changes that take place in the arteries inside and outside the kidney. Inside the kidney changes are most marked in the intima, outside in the media. In both the intima is thickened. Inside the kidney the media may disappear and often atrophies; outside this never occurs. He analyzes also certain features of the pulse and contraction of the vessel wall which is not usually recognized excepting in a few distinct morbid conditions, such as angina pectoris and some renal troubles. He therefore uses the term hypertonus as indicating the condition which he believes exists. A number of cases are reported and illustrated by sphygmographic tracings, illustrating this fact. The condition occurs at all ages. In strong persons it is associated with and a part of heightened blood-pressure and high-tension pulse. In aged people with failing heart it does not lead to increase in the blood-pressure, but the reverse, and is not infrequently the precursor of heart failure. In all ages it is produced in the great majority of cases by poisons introduced from without or by auto-intoxication. It may even be caused by syphilis and probably occurs in all diseases where there is absorption of toxins. Hypertonus is connected, in his opinion, with arteriosclerosis, in that the recurring or continuing hypertonus leads to hypertrophy of the muscle media of the arteries under the physiologic law of hypertrophy from increased action. The thickened intima in the arteries is explained by the circulation in the blood of deleterious substances of various kinds acting on the subendothelial connective tissue.

The Bacteriology of Sporadic Cerebrospinal Meningitis. WILLIAM HUNTER and ALEXANDER W. NUTHALL.—In this paper are described the bacteriologic findings in a number of cases of meningitis. In all the cases the diplococci had been isolated from the cerebrospinal fluid. In nine the fluid was obtained by lumbar puncture during life. This diplococcus has the same morphologic and biologic characteristics as Weichselbaum's diplococcus intracellularis meningitidis. In some it occurred in the pure culture, in others it was associated with other microbes, such as influenzal and tuberculous bacilli. The clinical picture and pathologic changes in these cases are those met with in so-called "posterior basal meningitis," which in all probability is simply a sporadic manifestation of cerebrospinal meningitis and produced by the same micro-organism. The cases reported number ten, and their bacteriologic findings in culture experiments are given in detail.

Bulletin de la Soc. des Hop. de Paris, May 23.

The Pupil Reflex in Syphilis. G. BABINSKI and CHARPENTIER.—These writers announced two years ago that the absence of the pupil reflex to light, if permanent and unaccompanied by any changes in the eyeball or optic nerve, or paralysis of the third pair, is almost pathognomonic of hereditary or acquired syphilis. Further experience has convinced them that the absence of the pupil reflex under these circumstances may be the only sign of an organic affection of the nervous system, and that patients thus affected are liable to be attacked by tabes, general paralysis or confirmed cerebrospinal syphilis. This sign, therefore, may be of great importance as it enables specific treatment to be instituted in the incipient stage.

Gazette Med. de Paris, May 25.

Contraction of the Pylorus in Gastric Pathology. M. BAUDOUIN.—Commenting on the case reported by Lépine (See THE JOURNAL of June 8, p. 1668), in which the pylorus by its contraction had served as a protecting sphincter against the escape of arsenic in the stomach and consequent intoxication, Baudouin states that he has had a somewhat similar experience, quite frequently during the last ten years, during attacks of neurasthenic migraine. He notes a sensation of constriction at the point corresponding to the pylorus. This continues during the vomiting but vanishes as the vomiting brings a little bile. He always rejoices when he sees the bile as it is evidence that his attack of migraine is terminated. The bile can not flow into the stomach unless the pylorus is open.

Presse Medicale (Paris), May 8.

Temporal Periostitis of Otitic Origin. H. LUC.—Four patients have been treated by Luc for a periostitis involving the temporal bone. The inflammatory tumefaction was restricted to this bone and the rear upper wall of the auditory canal, while the mastoid region proper was not involved at all in the process, which may or may not terminate in suppuration. He finds that this temporal periostitis, unaccompanied by intra-osseous suppuration, usually occurs in the course of a mild infection of the tympanum characterized by an exudate which does not always result in the perforation of the membrane and is frequently to be discovered only by auscultation. The pain is moderate but the fever may be slight or intense. The external manifestations are an edematous tumefaction over the temporal region, and, in case of suppuration, a swelling of the upper wall of the auditory canal where the pus collects at the lowest portion of the temporal fossa. A long, thin bistoury easily opens the abscess at this point, incising from without inward, the entire accessible length of the upper wall of the canal, passing through all the soft parts down to the bone. Pressure on the temporal region will evacuate the collected fluids through this incision, and a small drain should be introduced and left for two days.

May 15.

The Flora of the Human Body and the Evils of the Large Intestine. E. METCHNIKOFF.—This lecture, delivered at Manchester, states that the human body shelters from sixty to seventy different kinds of microbes. There are less on the skin than elsewhere; about thirty are found in the mouth where their secretions attract the leucocytes and are thus beneficial; about thirty in the stomach, fourteen in the small intestine and forty-five in the rest of the intestines. The microbes in the gastro-intestinal canal do not seem to influence digestion, but certain species evidently prevent the development of others. The cholera vibrio, for instance, kills a nursing rabbit, while it is completely harmless for the adult rabbit, after its intestines are tenanted by microbes. Most of the products secreted by the microbes inhabiting the large intestine are poisonous for the human organism, and the auto-intoxication may assume all forms. Even a chronic inflammation of the large arteries has been noticed in calves as the result of intestinal auto-intoxication. During our entire existence we have to submit to the noxious action of the poisons secreted by our intestinal flora. Attempts to sterilize the intestines have proved futile. The best means of getting rid of the microbian flora in the intestines would be to follow the example of the birds, and evacuate the contents of the intestines the moment that digestion is finished. Recent experiences have shown that persons can survive in good health after the removal of a considerable portion of the alimentary canal—four individuals

are now alive whose stomachs have been removed. Ciechomski, of Warsaw, has reported the case of a woman of 50 who had carried a spontaneous abdominal fistula for more than three years without interfering with her occupations or child-bearing. The entire large intestine was found completely atrophied. Comparative anatomy shows that the vertebrates with the smallest amount of large intestine are the longest-lived. Parrots and ravens live for 60 to 100 years, while the horse, with its exceptionally developed large intestine, lives but 20. Ostriches and cassowaries live only for 23 to 35 years, and these are the only large birds with a large intestine. Man is not immunized against his microbian flora, and natural selection has failed to liberate him from his large intestine, which is an absolutely harmful and dangerous organ, not merely from the poisonous products of its microbian tenants, but also because it is the seat of many fatal lesions. Most of the poisons which intoxicate, which gradually enfeeble us and render us old before our time, originate in the large intestine. If it is still impossible to attack the evil at its root by having the surgeon remove the large intestine, there is yet a possibility of relief by means of microbicidal and antitoxic serums and by reinforcing the noble elements of our organs. The cytotoxins which Metchnikoff and his pupils have produced, which in large doses destroy red corpuscles, spermatozoids, kidney and liver cells, etc., injected in small doses, have an opposite effect, stimulating instead of destroying the functions of the elements in question.

May 18.

Lateral and End-to-end Suture of Veins. G. CLERMONT.—After the successful suture of the internal jugular vein during the extirpation of a cervical adenitis, Clermont tested various kinds of sutures on rabbits and dogs to determine the best technique. He concludes that large veins alone can be sutured to advantage, although he succeeded in suturing a vein 4 mm. in diameter on a rabbit. On man he would never attempt it on a vein smaller than the external jugular. No. 00 silk is preferable to catgut or any absorbable material, but linen thread is as good as silk. The best method of suture is that which entails the least contraction of the vessel. The blood that accumulates in the stitch holes coagulates at once and closes them tight. An over-and-over-suture is perhaps best for a lateral closure but for end-to-end approximation he found the ideal method the "suture rabattue," or fell suture. The inner edges of the wound are brought together and the needle is passed through the base of fold formed by the two margins and back again in opposite direction. The outer margins are then brought together above and sutured with the same thread, the ends tied together finally outside. This method is ideal as there is no projection into the lumen of the vein and normal permeability is retained. The aseptic suture of a deep-lying vein was not followed by thrombosis in any of his experiments. Tikhoff reports that microscopic examination of the wound in the vein in dogs, one to thirty-three days after suturing, showed that a parietal thrombus formed over the line of suture inside the vessel, while the blood circulated freely over it. Small round cells then developed between the severed tissues and the thrombus, and the line of suture is thus isolated by this layer of cells and the thrombus from the interior of the vein. By the end of fifteen days this isolation of the suture had continued until it seemed to be pushed out into the perivenous cellular tissue by the proliferation within. The endothelial cells gradually extended over the thrombus and closed it in completely. It serves at first as a temporary protection over the suture and finally becomes an integral part of it, until it is absorbed, and the cicatrix at last becomes a narrow band of cicatricial connective tissue. Lateral ligature is so frequently followed by secondary hemorrhage that it should be definitely rejected.

Orthoform Eruptions. W. DUBREUILH.—Occasionally the use of orthoform causes and erythematous eruption, local or generalized, complicated with vesicles or pustules in most cases. Rarely the eruption has a gangrenous character. Asam has described nine cases in which orthoform dressings of wounds or of varicose ulcers caused a gangrenous ulceration, the aspect resembling that of an ulcerated lupus after treatment with pyrogallic acid. In exceptional cases the gangrene was deep, with thick, fetid, black eschars. The gangrene appeared after a few days, accompanied by intense pains, aggravated by renewed applications of the orthoform. Dubreuilh reports two cases of gangrene, but the intense pain in these instances could be relieved only by renewed application of the orthoform, which thus kept up a circulus vitiosus. In the first observation, the gangrene was diagnosed as a trophoneurotic lesion. The patient was a woman of 38 who had suffered from a fetid diarrhea followed by a violent anal pruritus. Orthoform was applied to the region of the anus, and it was not long before the pruritus was replaced by violent burning pains and gangrenous ulcerations, horribly painful and relieved solely by repeated applications of orthoform. The patient finally recovered. His second patient was a woman of 30 with a history of a pustulous eruption in childhood and a recent eruption of white pustules on the hands followed by almost necrotic erosions, extremely painful spontaneously at times, but not tender. A salve containing 10 per cent. orthoform was applied and a few days later a diffuse and intense dermatitis appeared on the hands and arms. An application of dermatol and salol caused such intense pain that orthoform had to be applied again. This relieved the pain at once and for several hours. The dermatitis gradually passed away, but the gangrenous erosions multiplied and became aggravated, accompanied by intense spontaneous pains. The similarity between these erosions and the anal ulcerations in his first case, suggested that the orthoform might be the cause, and the lesions gradually healed after its suspension. Morphin was required several times during the first days of the suspension as the pains were unbearable, but in eighteen days all the lesions were cicatrized, and the pains had disappeared.

Revue Hebd. de Laryngologie (Bordeaux), May 18.

Nasal Hydrorrhea. J. MOLINIÉ.—Nasal hydrorrhea is not a morbid entity, but is always a secondary phenomenon. In some cases the discharge comes from the brain and in others from a sinus, owing to a growth or accumulation of fluid therein. In other cases the nasal mucosa is the source of the discharge. Molinié classifies all the varieties of aqueous secretion from the pituitary as: 1, spasmodic rhinitis, in which he includes hay fever; 2, hydrorrheic rhinitis, in which a quart of fluid may be discharged during the twenty-four hours. This variety usually accompanies the arthritic, nervous, malarial or hepatic predisposition. It is aperiodical and the only circumstances which seem to have an influence on its production are emotions and cold. Treatment should be local and addressed also to the underlying predisposition. The third variety is the reflex rhinitis, due usually to intranasal irritation or cold as the principal extranasal factor. In ectopic rhinohydrorrhea the flow may proceed from the skull either spontaneously or after a traumatism. Huguenin has reported four cases of hydrocephalus cured by the spontaneous evacuation of cerebrospinal fluid by the nose. This craniohydrorrhea may persist indefinitely. One case is on record in which it lasted nine years. Recovery is exceptional; 50 per cent. of the patients have died, usually from tuberculosis or a cerebral complication. Traumatism was noted in the antecedents of three cases. The average age was between 15 and 30. No solution of continuity was discovered at the autopsy in most cases, and the fluid must have found its way through the perineural sheaths or the holes in the cribriform plate or the lymphatic passages which terminate in the nasal mucosa, but which normally are impermeable. The treatment must be addressed solely to the primary cause of the hydrorrhea. In sinusohydrorrhea the fluid flows drop by drop until the sinusitis is cured. In Berg's case the sphenoidal sinus was the seat of the hydrorrhea and the other symptoms were constant headache, exophthalmia and atrophy of the papilla. The fluid is not usually perfectly clear in these cases which are always due to some polycystitic degeneration or dropsy. The differentiation between hydrorrhea from the skull or from a sinus may require puncture of the sinuses. He distinguishes still another group which he calls aberrant rhinohydrorrhea, of medicinal origin, and concludes by citing several puzzling cases which do not seem to belong in any of the groups above described. One patient had a constant hydrorrhea for two years, which ceased during

an attack of typhoid fever. Ekkert's patient has suffered from constant hydrorrhea for more than two years, rebellious to all treatment and remarkable on account of an elevation of temperature every morning, accompanied by chills, sweats and aggravation of a cough. The nose, blood and urine seem entirely normal.

Semaine Medicale (Paris), May 22.

League Against Syphilis. A FOURNIER.—A society has been formed at Paris for "Sanitary and Moral Prophylaxis," composed of physicians, business men, officials and others, the aim being an actual campaign against syphilis. The progress of science has shown that syphilis is more serious and more dangerous than ever imagined until recently. Fournier is convinced that the number of syphilitics is increasing and estimates that the proportion to the male population of Paris is from 13 to 18 per cent. There is no other disease whose domain has grown so rapidly by annexations. This can be seen by comparison of the text books during the last fifty or even ten years. Even as late as ten years ago tardy hereditary syphilis was still unsuspected, and parasyphilis has been added to the black record still more recently. By parasyphilis he refers to tabes, general paralysis and buccal leucoplasia, with its frequent sequel, cancer of the tongue. These incurable affections prey by preference on syphilitics, and by their gravity and frequency and their resistence to antisyphilitic treatment, have rendered the prognosis of syphilis very different from the general acceptation of twenty years ago. The prognosis is at least tenfold more serious than in the days of our fathers. Many practitioners now forbid marriage under four to six years of treatment. The new society aims to have a large representative membership from all classes and to utilize all measures in the campaign against syphilis and its great procuress, prostitution; education of the public in the dangers of venereal diseases, official regulation, medical prophylaxis by public evening dispensaries with private consultations and circulars of instruction and warning, besides measures of a religious and moral order. He endorses the value of official regulation of prostitution, imperfect as it is, mentioning that 25 to 48 per cent. of the clandestine, that is, unregistered prostitutes of Paris are syphilitics, and that 873 in the contagious stage were arrested during 1897 for street solicitation, and sent to the hospitals for treatment. The innocent wives and children are protected somewhat by this official regulation, but even at its best fully 48 per cent. of the children in private practice are slain by syphilis and nearly 86 per cent. in the special hospitals. Among the measures which the League is advocating is training girls to some trade, the closing of saloons with private rooms, opening the liberal careers more freely to women, warning young girls of the dangers that threaten them, fixing "paternal responsibility" and legal penalties for damages from venereal contamination. In regard to warning young men, he quotes with approval: "the fear of syphilis is the beginning of wisdom." The public should be warned of the dangers of extragenital contagion. He has three patients who infected their mothers by a filial embrace. In one case he found the children's nurse developing a typical chancre on the lip unnoticed by the family.

Centralblatt f. Chirurgie (Leipsic), May 18.

Magnesium for Absorbable Surgical Appliances. E. PAYR.—The advantages of an absorbable material for buttons for entero-anastomosis and interposed plates to prevent the development of anchylosis in operations on joints, are generally recognized, and magnesium is proving all and more than Payr hoped for in his first communications on the superiority of this material for appliances in surgical technique. There have been no inconveniences from its use. He has found delicate, magnesium hollow cylinders extremely useful and satisfactory for the primary or secondary suturing of nerves and vessels. Narrow strips of magnesium laced together with catgut are a safe and reliable means of arresting hemorrhage in parenchymatous organs. Pegs made of magnesium are also very useful to hold rebellious fractures and in pseudarthrosis. Previous communications on magnesium for surgical appliances have been noticed in THE JOURNAL, xxxvi, 1901, pp. 294, 1357, etc.

June 1.

Improved Turpentine-Ether Narcosis. E. BECKER.—The familiar properties of the volatile ethereal oils in inhibiting mucous secretion, are utilized by Becker to diminish the secretions during ether narcosis. He finds that oleum pini pumilionis is the best adapted for the purpose. It closely resembles oil of turpentine but has an agreeable, aromatic odor which masks that of the ether. He adds twenty drops—about 1 gm. —to 200 gm. of ether. It dissolves readily and he administers the mixture the same as the ether alone. He has been much gratified with this improved method of narcosis in his experience with about 500 patients and considers it a distinct advance.

Deutsche Med. Wochenschrift (Berlin and Leipsic), May 23.

Treatment of the Uric Acid Diathesis. DETERMEYER and BUETTNER.—Clinical tests on several patients at Salzbrunn i. Schl. showed that the waters of the alkaline spring, Oberbrunn, had besides the diuretic effect and the general dilution of the corporeal juices, a specific action on the urine, conferring upon it the power to dissolve uric acid and the urates in vitro and in vivo. The urine at first contains an enormous amount of uric acid after these waters have been used for a time. This can be explained only by the assumption that the uric acid throughout the organism, in the tissues or in the deposits of urates, is dissolved out by the action of the waters. After this has proceeded for a time, the general production of uric acid is diminished, the excess has been dissolved and eliminated and consequently the amount in the urine becomes and remains very small. In taking these or any alkaline waters the amount should not be sufficient to abolish the acid reaction, on account of the danger of precipitating the phosphates, and the formation of phosphatic calculi. Close supervision is therefore kept over the urine of patients taking the Oberbrunn waters. A comparatively small amount is found most effectual.

May 30.

Tendon Transplantation for Contraction of the Knee. L. HUESNER.—In three severe cases of recurring contraction of the knee after various affections of the joint, the tendency to contraction was permanently cured by transplanting the tendon of the semitendinosus or gracilis muscles. The incision should be very long in order to amply isolate the tendons and muscles involved. Then a small median incision upward from the patella enables the flexor tendons inside and outside of the aponeurosis of the quadriceps, to be slit and sutured in place.

Cerebral Hemorrhage with Verrucose Endocarditis. M. SIMMONDS.—The post-mortem examination of two children showed that the cause of death had been cerebral hemorrhage from a ruptured aneurysm in the course of a verrucose endocarditis. The same coccus was derived from the thrombosed vessels that had been isolated from the verrucose endocarditic vegetations, a staphylococcus. Material containing bacteria had evidently been transported from the heart-valve to the smaller cerebral vessels, and had there occasioned the destruction of the vessel wall and the formation of an aneurysm. The connection between the endocarditis and the cerebral hemorrhage was evident. In two cases in young women death had occurred in consequence of the rupture of an aneurysm in the right sylvian artery in one patient. The remainder of the vascular system and the kidneys were intact and other conditions were normal, except that recent and old verrucose vegetations were discovered on the mitral valve. In the other patient no less than four aneurysms were found at the base of the brain, and the hemorrhage had evidently proceeded from a fifth. Verrucose lesions, recent and old, were found on both the aortic and mitral valves. No bacilli could be discovered in either case. In three others a cerebral hemorrhage was the cause of death, but no aneurysm could be found. There was a history of chronic, recurring verrucose endocarditis in each case and preceding articular rheumatism in one. A mere coincidence between the verrucose affection and the cerebral hemorrhage is, of course, possible, but Simmonds believes that all

the seven cases described indicate that there is a close connection between the bacterial verrucose endocarditis and the consecutive cerebral lesion, in the absence of alcoholic or syphilitic antecedents, and with the rest of the vascular system and the kidneys intact.

Muenchener Med. Wochenschrift, May 14.

Mixed Ether and Chloroform Narcosis. H. BRAUN.—For several years Braun has been using an apparatus for the administration of ether and chloroform which allows the combination of the two at will. A metal case contains two bottles which project above through the cover, the larger holding ether and the other, chloroform. A shallow flat box fits hermetically over the tops of the bottles. It has a stopcock in each side near the center, and rubber tubes emerge above and below. The upper tube terminates in a rubber bulb. The second tube passes into the anesthesia mask. When both stopcocks are open the ether and chloroform pass into the mask together in the proportion of 4 to 1. A leather strap suspends the entire apparatus from the neck of the anesthetizer. After the mask is applied, the bulb is compressed at each inspiration of the patient. When the limit of tolerance has been reached the chloroform is shut off and the narcosis continued with ether alone. Slight pressure on the bulb is sufficient to keep the patient under the influence of merely traces of ether during protracted operations. A whiff of chloroform may be added from time to time as required. In 250 anesthesias by this method, an average of 54 c.c. of ether and 12 c.c. of chloroform was used, the length of the operation varying from fifteen minutes to three and a half hours, average forty-seven minutes. The patients awoke remarkably easily and normally. Vomiting occurred in one-fifth of the cases, usually only once on awakening. By this method the advantages of both ether and chloroform are secured and their disadvantages avoided. The narcosis can be individualized to the case: 15 to 20 c.c. of pure ether will be found sufficient for a child, while a hard drinker may require 40 to 50 c.c. of chloroform, with little, if any, ether.

Inguinal Hernia of the Ovary. QUADFLIEG.—Three cases are described, two of which were congenital. One infant was operated on at two months. The painful tumor in the left inguinal region contained a cystic degenerated ovary, which was removed. The second infant was about three months old, and the ovary was twisted and gangrenous. The third patient was a woman of 41, in the fourth month of pregnancy. She had noticed a bunch in the right inguinal region for nine years, and had suffered from digestive troubles and constipation since that time, but was otherwise well. The tumor suddenly commenced to grow larger and became painful. There was no vomiting nor fever, but the appetite had diminished. The operation disclosed an inguinal hernia, the sac containing the swollen tube and ovary. After enlarging the hernial opening the ovary and tube were replaced in normal position, and the patient made an uneventful and rapid recovery. The symptoms in the first two cases were merely vomiting and the painful tumor.

Cosmetic Operations on Goiter. E. MEUSEL.—The best cosmetic results are obtained by removing the goiter horizontally. A flap of gland tissue is cut and the front and rear surfaces pared to make it flat. This flap then fits smooth in place and the skin flap over it. In seven years of experience Meusel has never had a hemorrhage nor necrosis from a goiter thus treated. The flap of the gland thus left is sufficient to prevent cachexia strumipriva.

Myasthenic Paralysis. H. OPPENHEIM.—The first symptoms of bulbar paralysis appear in the ocular muscles, as phenomena of paralysis or fatigue, ptosis and diplopia. After a few weeks, or occasionally not till after a few months, the muscles involved in chewing, speaking, swallowing and the facial muscles show signs of exhaustion. This weakness may, however, involve at once the muscles of the nape of the neck, the trunk and the extremities, or may spare them for a time. The affection may run an alternating course and the limbs or articulations may be the first affected. Genuine atrophy of the muscles and the corresponding changes in electric excitability never appear even in a prolonged course of the disease nor are objective disturbances in sensibility or the senses observed. The patients frequently complain of pain in the head, back and extremities. Oppenheim considers the neuropathic diathesis the most important factor. The influence of infections or intoxications is still dubious, and overexertion is probably merely an inciting cause. A few observations indicate congenital anomalies in development. The affection seems to be due to a pre-existing tendency in certain portions of the nervous system which renders these portions sooner or later incapable of functioning, either that they completely and permanently renounce their functions, or are exhausted abnormally early, and require rest after brief activity. The protracted course of the affection—ten, fifteen, and even thirty-five years—and the remissions and intermissions, render the prognosis less unfavorable than at first supposed, although twenty-six out of the fifty-eight cases on record have resulted fatally. The general manner of life must be regulated to spare the muscles as much as possible; the food taken in such form as to supply the greatest amount of nourishment in the form that requires least work from the muscles of chewing and swallowing. These measures can be supplemented by the constant current and by gentle hydriatic measures. Faradization is strictly contraindicated.

May 21.

The Stump of the Appendix Vermiformis.—O. LANZ.—The microscope shows that the muscular and mucous coats of the appendix contract away from the spot when the appendix is crushed close to the base. This leaves the serous membrane empty, and the stump therefore consists of nothing but this membrane. Lanz advocates crushing the appendix in this manner with the angiotribe, close to the base, concluding with a Lembert suture of the stump, as the ideal method of amputating.

A Case of Cholecysto-Gastrostomy. F. KRUMM.—A patient with a large tumor in the pancreas, completely occluding the common bile duct, refused surgical intervention until it was too late for more than a palliative operation. Adhesions rendered anastomosis of the gall bladder with the intestines impossible, and consequently cholecysto-gastrostomy was done. The fistula thus produced functioned with perfect success. Appetite and strength returned and the intolerable pruritus was definitely cured, but the cachexia progressed to a fatal termination in seven weeks. Boeckel could collect only four cases of this operation in his report at the Paris International Medical Congress. The improvement can only be transient, and this was his experience in cholecystenterostomy. Quénu has published a case of chronic icterus completely cured by cholecysto-gastrostomy, and Jaboulay has also reported a similar case. No bad after-effects from the flow of the bile into the stomach were observed in any case.

Inhalation of Sprays. M. SAENGER.—As the result of much experimentation, Saenger announces that a fluid sprayed in the throat does not necessarily penetrate into the remoter air passages as a spray. The droplets flow together, and the spray effect is thus entirely lost, even in the throat. The fluid thus formed may find its way downward by gravity, by capillary attraction, and by the force of the inspiration, and thus be drawn into the remotest alveoles, but it is extremely improbable that any of the spray passes beyond the bifurcation of the bronchi. The narrowing of the mouth into the throat favors the coalescing of the droplets of spray.

May 28.

Application of Steam to the Uterus. H. FUCHS.—Since the introduction of atmocausis, or the application of a stream of steam directly into the uterus, not a single hysterectomy has been found necessary for the uncontrollable uterine hemorrhages of the menopause at the Kiel clinic. The early and remote results in twenty-two cases are tabulated and described in this article. In several cases the uterus had been previously curetted in vain. The steam, at 115 to 120 C., was applied for twenty to forty seconds. In six cases the menopause was completely established after the vaporization; in six others menstruation recurred, but diminished in quantity,

and in eight slight discharges of blood were noticed at irregular intervals. The condition known as chronic uterine infarct was cured by the removal of the cause. The involution of the enlarged organ was hastened. All of the patients are in good health with one exception, and a repetition of the atmokausis is in prospect to definitely abolish the slight hemorrhages which still persist in this case.

Instrumental Perforation of the Uterus.—F. SCHENK.—In the case reported a woman of 38, ix-para, was operated on for the cure of a laceration from the last childbirth, eight months before. The uterus was rinsed out with a sublimate solution. The catheter introduced penetrated 20 cm. without encountering the least resistance. Two other catheters were inserted with the same experience. The patient showed signs of distress, and the abdomen was opened at once to forestall intoxication from the sublimate, as a perforation seemed certain. Three were found. The uterine walls were so soft and friable that it was almost impossible to suture them. The organ seemed normal except for this extreme friability, and the patient rapidly recovered. Menstruation had immediately preceded the operation, and Schenk noticed a similar friability recently in another patient who had menstruated just previous to the operation.

Wiener Klin. Wochenschrift, May 9.

Local Action of Suprarenal Extract on Nose and Throat. L. HARMER.—The reduction of the hyperemia that follows the local application of suprarenal extract to the mucosa of the nose and throat has a favorable effect in catarrhal conditions. It enhances the analgesic action of cocain, which property is probably due also to this vasoconstricting influence; possibly the cocain works more effectually on tissue free from blood. Suprarenal extract is, therefore, indicated in cases that require cocainization, as the amount of cocain can be materially reduced. This is the only positive indication announced as yet from Chiari's clinic in regard to the action of suprarenal extract on the nose and throat, after considerable experience.

May 16.

Etiology of Articular Rheumatism. G. SINGER.—In five cases of acute articular rheumatism and in one of rheumatic chorea, Singer found the streptococcus in the various organs post-mortem. The staphylococcus was also discovered in the case of chorea, which had been accompanied by an inflammation of the elbow and preceded by a follicular tonsillitis. The writer in 1898 called attention to the numerous clinical and anatomic analogies between acute articular rheumatism and the staphylo-strepto-mycoses. Others are gradually coming to recognize now that there are a number of indistinct and ambiguous cases of disease which belong in the borderland between acute articular rheumatism and cryptogenetic pyemia. The experiences of the past in respect to pneumonia and endocarditis demonstrate the folly of setting certain bacteria apart as specific for certain diseases. Other micro-organisms, not at all related to them, may originate the same apparently specific processes. The staphylococcus and the streptococcus have each been found in acute articular rheumatism, and the latest research by Wasserman and Meyer only confirms the assumption that there is no specific agent of this disease, as the streptococci which they discovered proved to be merely the ordinary variety after all.

Clinical Diagnosis of Renal Colic and Kidney Infarcts. R. SCHMIDT.—The clinical pictures in a large number of collected and personal cases of renal colic are reviewed and the most important diagnostic and differentiating points are seen to be the following: In every case of renal colic it is necessary to determine whether the pain proceeds from conditions inside the kidney—increased pressure or tissue necrosis—or in the ureter, from obstruction. Intrarenal pain is generally restricted more to the actual kidney region. The organ is extremely sensitive to pressure, especially in case of infarction. The pain is more continuous, and is eventually accompanied by sudden, intense albuminuria or a nephritic sediment in the urine. The extrarenal or ureteral colic has a greater tendency to radiate along the course of the ureter, which is sensitive to pressure. Acute hydronephrosis may follow. The pain is more intermittent. The intrarenal colics may be caused by twisting of the stem of a wandering kidney, sudden compression from a vascular, malignant tumor, chronic nephritis with acute inflammatory exacerbations, or infarcts in the kidney. The pain on pressure is generally more intense and more frequent in the latter case, but the blood pressure is low. The colic pains frequently appear while the patient is in bed, in case of infarcts, but with torsion of the stem or chronic nephritis, the colic is usually preceded by a mechanical injury. An apoplectic onset of the colic pains in their extreme intensity is a feature peculiar to the colic from infarction, but hematuria is rare. Suddenly appearing and rapidly disappearing albuminuria, without sediment in the urine, is another characteristic of infarction. Enteroptosis obscures the prognosis, as it induces reflex vomiting. The pain in cases of infarct is increased by reclining on the healthy or least affected side. Total occlusion of the renal artery may occur without heart symptoms. Oliguria and anuria are frequent in bilateral renal infarcts, but there is no morbid desire to urinate. This article is continued through several numbers, and is a communication from E. Neusser's clinic.

Gazzetta degli Ospedali (Milan), May 12.

Agglutination by Malarial Blood. G. GRIXONI.—Tests on 130 persons have demonstrated that the blood or the serum of a malarial patient will agglutinate the erythrocytes in the blood of a normal person or of a malarial or typhoid fever patient or in any other infectious disease. Normal blood does not possess this property. In doubtful cases of malaria, therefore, a drop of blood or serum from the febrile patient, mixed with a drop of blood from another person free from malaria, will differentiate the disease to the naked eye in ten minutes. When the blood agglutinates in this way, even although there may be no clinical manifestations of malaria, quinin treatment should be instituted, as the affection evidently persists in a latent form. This agglutinating power is specific of malaria and typhoid fever; it was impossible to detect it in any other of the numerous diseases and affections tested. Quinin in vitro, as well as in the organism, has a marked anti-agglutinating influence.

The Cerebrospinal Fluid a Secretion. CAVAZZANI.—The alkalinity of the cerebrospinal fluid is less than half that of the blood. In dogs under the influence of curare, that is, with the central nervous organs functioning, the alkalinity progressively diminishes, while in other dogs under the influence of morphin, it remains stationary. Cavazzani accepts these facts as confirmation of the assumption that the nerve secretes an acid substance during its functional activity. He has determined the presence of an oxydasis in the cerebrospinal fluid, for which he proposes the name "cerebrospinosis." He considers the cerebrospinal fluid an actual secretion, probably localized in the epithelial elements.

Endovenous Injection of Iodin. SPOLVERINI.—Remarkably fine results are reported by Spolverini in the treatment of scrofulo-tuberculosis in children, and of syphilis in adults, by the direct injection into a vein of a maximum of 5 cg. of metallic iodin. His formula is: potassium iodid 3 gm. and metallic iodin 1 gm. in 100 gm. of sterilized distilled water. As much as 28 cg. of iodin was injected in one case with no bad effects. The tolerance to the usual doses was always perfect, except in a few tuberculous children, in whom the local reaction threatened phlebitis for a day or so.

May 19.

The Cutaneous and Tendon Reflexes in Nervous Diseases. E. TEDESCHI.—The morbid processes entailing injury of the pyramidal tracts are usually accompanied by an exaggeration of the tendon reflexes and the weakening or abolition of the cutaneous reflexes. This antagonism between the tendon and cutaneous reflexes is especially marked in certain cases of chorea and in epileptics immediately after a seizure. The examination of the cutaneous reflexes is a valuable differentiating measure between organic and functional nervous affections. Babinski's sign almost invariably accompanies a lesion of the pyramidal tracts, but the condition of the extensor and flexor muscles of the toes is important in its production.

Queries and Minor Notes.

OBLIGATIONS OF OPERATOR TO ASSISTANT.

GRAND ISLAND, NEB., May 17, 1901.

To the Editor:—Will you kindly solve the question involved in the following case? Dr. A. operated on a patient and was assisted by two of his colleagues whom he had engaged for that purpose. Dr. A. continues in attendance until the patient's death some months later. The widow receives sufficient life-insurance money to pay all bills, but taking advantage of the fact that life-insurance is exempt from execution, she refuses to pay only such as she may elect. She tells Dr. A. that if he will discount his bill 25 per cent., I think, she will pay him. He complies and receives the cash ($300). Dr. B., one of the assistants, holds that Dr. A. was and is, in honor bound to protect the interests of the physicians whom he had called into the case. Dr. A. disclaims any such responsibility.

The question submitted is: Has Dr. A. any obligations touching the compensation of the physicians who assisted him, he having made all the arrangements as above stated, and nothing having been said as to gratuitous assistance, or that each one should look to the patient, or as it has resulted, the widow, for his pay? In other words, in such a case as the above, what are the *obligations* on the one hand and the *rights* on the other? J. L. S.

ANS.—The "obligations" and the "rights" depend on the arrangements made between the parties interested, which our correspondent does not disclose. It is not unusual for physicians to assist each other in operative work, without making definite arrangements for compensation, and sometimes, perhaps, without any intention of asking it. If, however, compensation was expected, and this was understood by the operator, he is under a moral obligation at least to look out for the interests of those he called to his aid.

MEDICAL PRACTICE ACTS.

RAINSBORO, OHIO, June 10, 1901.

To the Editor:—Do persons graduating in Ohio or other states have to be examined by the State Board of Indiana before they are allowed to practice in that state? D. N. M.

ANS.—The laws of the state of Indiana require a diploma from an institution recognized as coming up to the standards fixed by the State Board. All others have to pass an examination. The State Board also is authorized to arrange as regards reciprocity with other states. About a year ago a resolution was passed that "No applicant from any other state for a certificate entitling him to practice medicine, surgery and obstetrics, shall be granted a certificate by this board on conditions more lenient than those required of applicants from Indiana by the examining board of the state from which he comes." This would imply that applicants from Ohio would have to stand an examination in Indiana unless reciprocity had been established between the states.

CARLISLE, PA., June 11, 1901.

To the Editor:—I wish to secure a copy of the medical laws of the different states of the United States. Will you please tell me how and where I can secure the same? H. H. L.

ANS.—If a file of the Bulletin of the American Academy of Medicine is available to you or at hand, it would give the best general résumé of the laws of the different states in regard to the practice of medicine. The June number, now due, will probably bring it up to date. The state of New York published a résumé of the practice acts a year or two ago, but it would not now be up to date. We know of nothing better than the résumé in the Bulletin of the American Academy of Medicine, which can be obtained through correspondence with the Secretary, Dr. Charles McIntyre, La Fayette College, Easton, Pa.

New Patents.

Patents of interest to physicians, etc., May 21 and 28:

674,691. Apparatus for the production of caustic alkali and halogen gas. Charles E. Acker, Niagara Falls, N. Y.
674,371. Spraying nozzle. Carl Altenburger, Des Moines, Iowa.
674,391. Exercising device. Frank W. Baker, Chicago.
674,395. Hygienic handkerchief pocket or receptacle, Anna M. Bevis, Mount Ayr, Iowa.
674,833. Spray tube for nebulizers. Wm. and J. Boekel, Philadelphia.
674,598. Hernial truss. John W. Bunker, Farmington, Maine.
674,645. Truss, Henry C. Demaree and W. C. Eckhart, Roca, Neb.
674,701. Antiseptic apparatus. Wilber M. Kelso, Chicago.
34,546. Design, truss support. Benjamin T. Allison and J. J. Brown, Pine Bluff, Ark.
675,364. Medicine dose indicator. James L. Burton, New Britain, Conn.
674,853. Coin or lozenge package. Elliott H. Crane, Colon, Mich.
675,131. Hernial truss. Henry T. Emeis, Salt Lake City, Utah.
675,208. Truss. Henry H. Gerhardt, Nashville, Tenn.
675,275. Nasal device. Josephus H. Gunning, New York City.
675,042. Apparatus for testing urine. John Hepburn, Warren, Pa.
675,006. Hernial truss. Francis E. Jackson, Socorro, N. M.
675,243. Atomizer, Josiah K. Proctor, Philadelphia.
675,017. Surgical appliance. Wilber C. Roush, Anderson, Ind.
675,180. Atomizer. Jacob Waldman, New York City.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., May 30 to June 5, 1901, inclusive:

Ira A. Allen, captain and asst.-surgeon, Vols., leave of absence extended.

Joseph L. Bell, contract surgeon, now in Washington, D. C., on leave of absence, is relieved from further duty at Fort Crook, Neb., and will proceed to Fort Morgan, Ala., for post duty there.

George M. Decker, contract dental surgeon, from Troy, Pa., via Tampa, Fla., to Havana, Cuba, for duty in the Department of Cuba.

James C. Dougherty, contract surgeon, from New York City, N. Y., to Aibonito, P. R., for post duty.

H. A. Eberle, contract surgeon, leave of absence granted on being relieved from duty in Porto Rico.

Lawrence A. Felder, contract surgeon, from Fort Morgan, Ala., to Atlanta, Ga., for annulment of contract.

Nevil M. Garrett, contract surgeon, leave of absence granted.

F. M. Hartsock, lieutenant and asst.-surgeon, U. S. A., leave of absence granted.

George P. Heard, contract surgeon, member of an examining board at Fort McPherson, Ga.

George H. Richardson, contract surgeon, from Washington, D. C., to post duty at Plattsburg Barracks, N. Y.

William M. Roberts, lieutenant and asst.-surgeon, U. S. A., member of a board at San Francisco, Cal., for the competitive examination of enlisted men and others for commission in the Army.

F. Homer Wolven, contract dental surgeon, from Washington, D. C., to San Francisco, Cal., en route for duty in the Division of the Philippines.

In addition to the above, the following-named medical officers, upon the expiration of their present leaves of absence, are to be assigned by the commanding general, Department of California, to temporary duty pertaining to the muster out of returning volunteers, on the completion of which they will proceed to Manila, P. I., as heretofore ordered: Major Thomas C. Chalmers, surgeon, Vols.; Major Luther B. Grandy, surgeon, Vols.; Major John A. Metzger, surgeon, Vols.; Major Frederic A. Washburn, Jr., surgeon, Vols.; Major John Carling, surgeon, Vols.; Major George P. Peed, surgeon, Vols.; Captain Frederick H. Sparrenberger, asst.-surgeon, Vols.; Captain Charles R. Gill, asst.-surgeon, Vols.; and Captain Willis J. Raynor, asst.-surgeon, Vols. Also, the following-named assistant surgeons, U. S. A., are honorably discharged by the Secretary of War, as majors, surgeons, U. S. Vols., only, to take effect June 30, 1901: Captains Henry C. Fisher, Eugene L. Swift, John S. Kulp, Frederick P. Reynolds, Merritte W. Ireland, William F. Lewis, Paul Shillock; Alexander N. Stark, Powell C. Fauntleroy, Charles Willcox, Henry A. Shaw and First Lieutenant George W. Mathews.

Navy Changes.

Changes in the Medical Corps of the Navy, week ended June 8, 1901:

Drs. J. W. Backus, F. A. Asserson, J. F. Murphy, W. Seaman and R. R. Richardson, appointed assistant surgeons in the navy.

Surgeon F. J. B. Cordeiro, detached from the *Buffalo*, June 10, and ordered home to wait orders.

Surgeon L. W. Curtis, ordered to the *Buffalo*, June 10.

P. A. Surgeon E. S. Bogert, Jr., commissioned surgeon, from Dec. 15, 1900.

Asst.-Surgeon R. W. Plummer, detached from the *Nashville* and ordered to the *Princeton*.

Asst.-Surgeon W. Seaman, ordered to the *Independence*, June 17.

Asst.-Surgeon H. H. Haas, detached from Naval Hospital, New York, and ordered to the Norfolk Navy Yard, June 10.

Asst.-Surgeon R. R. Richardson, ordered to Naval Hospital, New York, June 10.

Asst.-Surgeon J. M. Brister, detached from the *Independence*, June 17, and ordered to the Asiatic Station via transport *Hancock*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended May 30, 1901:

Surgeon H. R. Carter, to inspect the local quarantine station at Baltimore, Md.

Surgeon R. M. Woodward, granted two weeks' extension of leave of absence from May 28.

Surgeon G. T. Vaughan, detailed as delegate to represent the service at the meetings of the Association of Military Surgeons of the United States May 30, and American Medical Association June 4, at St. Paul, Minn.

P. A. Surgeon J. O. Cobb, relieved from duty at Fort Stanton, N. M., and directed to proceed to Portland, Ore.

P. A. Surgeon C. P. Wertenbaker, detailed to represent the service at meetings of the Association of Military Surgeons of the United States May 30, and American Medical Association June 4, at St. Paul, Minn.

P. A. Surgeon C. P. Gardner, detailed to represent the service at meeting of the Washington State Medical Society, at Seattle, Wash., June 18 to 20, 1901, inclusive.

Asst.-Surgeon C. E. Decker, granted leave of absence for ten days.

Asst.-Surgeon W. C. Hobdy, to proceed to Thomson, Ga., for special temporary duty.

A. A. Surgeon J. W. Hargis, granted leave of absence for four days from May 28.

Hospital Steward E. T. Olsen, granted leave of absence for fifteen days from June 13.

Hospital Steward L. C. Spangler, to proceed to Delaware Breakwater, Del., and report to medical officer in command for duty and assignment to quarters.

APPOINTMENT.

Lewis C. Spangler, of Ohio, appointed junior hospital steward in the U. S. Marine-Hospital Service.